

Break

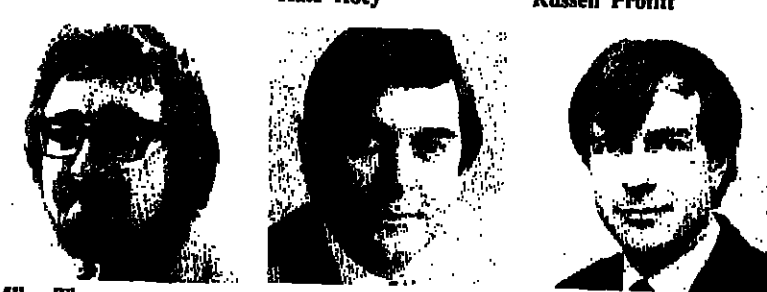
Class of '67

"Where are they now?" is always an entertaining game to play about former National Union of Student leaders, but it also provides an increasingly interesting commentary about political life and the opinion-forming classes.

Take, for instance, the class of 1967, when Tom McNally was vice-president of the NUS. He went from the NUS into Labour Party research, before becoming political adviser to James Callaghan at the Foreign Office and Number 10. He was elected Labour MP for Stockport before switching to the SDP. But what is the significance of the fact that beside him on the NUS executive in 1966-67 were Ian Wigglesworth and Mike Thomas? They both, of course, also went on to become Labour MPs, before deciding that their future lay with SDP. And what gives this particular coincidence added piquancy is the fact that this incident SDP wave was sandwiched between the NUS's sherry diplomacy era, when it used to concern itself largely with such non-political issues as travel and welfare, and the intensely political take-over by the Broad Left, spearheaded by Jack Straw.

The president in that year was Geoffrey Martin, said to be moderate but tough, who went on to be a merchant banker before a controversial spell as director of Shelter - where the mix of moderation and toughness turned out to be not quite right. He left for the Commonwealth Secretariat, and two years ago was appointed EEC Information Officer in Ulster.

The 1967 NUS secretary was Trevor Fisk. He became president for 1968-69 and (though elected as a Labour councillor later) was clearly not political enough for the student



mood in that revolutionary year. Against all the odds, Jack Straw, the first Left candidate for a couple of decades, beat him in the presidential campaign for 1969. He later, of course, became political adviser to Mrs Barbara Castle and then her successor as Labour MP for Blackburn.

Coming up with him on the left were Russell Proffitt, vice-president 1969-70, now deputy head of an ILEA primary school and a Labour councillor in Lewisham. The next year the vice-president was Kate Hoey, who recently fought it out with Proffitt for the Dulwich Labour Parliamentary nomination (which she won).

Other people prominent in the rich tapestry of student life in those vintage years around 1966-67 were

Personal column

Somewhere to live

Mary Warnock

I have always had a great affection for *Private Eye's* Pseud's Corner. I even once appeared in it myself, by way of a quotation from Sartre, on the inverted commas of which had accidentally gone astray.

But Pseud's Corner would be inadequate to do justice to some documents recently given to me about an Open University course called Art and the Environment. It is worth half a credit, which is something to be thankful for, because it is very difficult, rendering the literature, to believe in the intellectual content of the course.

In advertising the component summer school projects are outlined between which students may choose. Some are orthodox, like a ceramic workshop to explore the potential of natural materials; others less so, and these indicate the political philosophy of the course. For instance there is a project called New Games, which offers "participation in co-evolutionary games involving no winners and no losers, and the wider political and philosophical implications of non-competitive environments." I know about games with no winners and no losers - things like ring-a-ring-o'-roses. But I also like that people over three clearly love competitive games like soccer, Master Mind, Play Your Cards Right and cricket. Still perhaps they should be taught to do without them, and perhaps this course would help them to forgo such pleasures.

Another offer is the project called Performing Art, where students are promised "Theatre, happenings and other events including new community and ecological art forms such as All Species (theatre concerned with specism)". A common theme is here seen emerging. It is the theme of equality. No one should win, no one lose. All animals are equal, from the cheetah to the elephant, including the humans on the way.

Among humans there should be no preference shown for those who are good at things over those who are not. They are reminded constantly that photography can be enjoyed with the pin-hole camera, music with the natural sounds of the environment, poetry by the writing of graffiti on the walls. Community printing, community radio, dance without steps (but concerned with movement in everyday life, in the setting of the community, with people at home or at school), all is available, all is equal, all is art. (But only the lavish photographs in the brochure were not the product of the pin-hole camera.)

There is one class of genuinely superior people, however, and that is

the class of children. Connected with the Art and Environment course there is a more ambitious project to encourage children to "participate in alternative futures"; and their success in doing this seems, we are told, to indicate the slow dissolution of the school as the fundamental centre for learning and 'information', and its replacement by the community. (Haven't we heard this somewhere before?)

Within the community, it is primarily the children who will do the teaching. Children are the experts. "This is an inversion of what we normally know as schooling, and its implications for the political basis of future society." It certainly has.

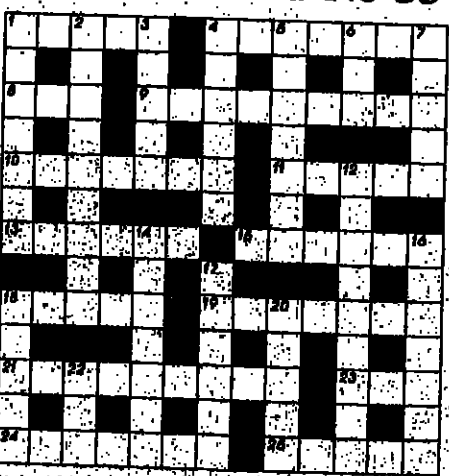
What happens, for instance, to the expert children as they grow up and are compelled to return? Certainly the whole idea of the teacher or expert seems to cause some embarrassment in the community of equal animals.

Even in the relatively down-to-earth instructions for those attending the summer school (where they are told what clothes to bring and how they will have to pay for themselves if their projects take them far from the centre) we read that students "will be able to undertake experiments and learn with the resource people (tutors)". It is tragic to have to translate, but clearly demands it.

There is more than a whiff of existentialism in all this, and it is possible that members of its political candidature en bloc for Pseud's Corner. The main pamphlet, entitled *Art is not Yesterday* is headed by a quotation from Heidegger. As in war-time Paris, to spend your life: propping up the bar was presented as free active decision; here we are told that merely to live in the environment (where else, pray?) is also art. Just as for existentialism each of us, however tied and bound, was really free, so here each of us, however incompetent, is really an artist. It is only our old enemy, schooling, which has made us think otherwise. By merely being alive you have beaten Mozart and Beethoven, who are, after all, yesterday's men.

All teachers know that it is right to encourage pupils. But encouraging them can go so far as to be incredible. I do not believe that I can write as well as Shakespeare or paint like Rembrandt, and if I wanted to learn to write or paint better, I doubt very much whether being told that I could do so would be much help. But I am only an unimaginative old resource person; so what can you expect?

TES Crossword No 33



Across
1. Throw away a fight (3)
2. Clothing great, thin (7)
3. The French maid's home (4)
4. Irregularities in a demolition (7)
5. There may be a few (3)
6. Steady source of heat (6)
7. Country long about a salt (6)

Down

1. Cuckoos when adults are called for (7)
2. Stacks fruit vehicles (9)
3. Square, market, plant (5)
4. You'd feel better without them (6)
5. Powerful agency used to take a member of the (7)
6. The man from whom Samuel imbibed wisdom (7)
7. Have an oral test (5)
8. Riding like a demon (5)
9. Cuckoo (5)
10. Cuckoo (5)
11. Speak to one's home (7)
12. The voice of the dove (7)
13. Blow on the feet for warmth (5)
14. The whole lot, though (7)
15. Sounds like a lion (7)

Solution to puzzle No 32
Across
1. Throwing away a fight (3)
2. Clothing great, thin (7)
3. The French maid's home (4)
4. Irregularities in a demolition (7)
5. There may be a few (3)
6. Steady source of heat (6)
7. Country long about a salt (6)

THE TIMES

Educational Supplement

FRIDAY MARCH 26 1982 NUMBER 3430

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Councils bring in tough measures in pay battle

by Richard Garner

Local education authorities got tough with teachers' unions yesterday.

A joint statement agreed by representatives of all three political parties said that the decision to shut schools in Calderdale early had been taken in order to minimise disruption for the children. In addition, schools would be opened after the Easter holiday five days earlier.

However, councillors said they would only shut schools which could not function normally because of the industrial sanctions, and on Wednesday morning it was believed that only a third of the schools (about 50) were being closed.

The two biggest teachers' unions, the National Union of Teachers and the National Association of Schoolmasters/Union of Women Teachers, ordered their members to turn up for work as usual, and immediately invoked the disputes procedure.

Mr Len Cooper, executive member of the NAS/UTW for the area, said teachers were able to get into the closed schools since the gates had not been locked and were teaching any pupils who turned up for classes.

In Durham, the Labour-led county council put off a decision to bring the end of term forward after a meeting with teachers' leaders on Tuesday. Originally they had planned to shut schools at the end of the week, but they will decide today whether they should be closed on Monday evening.

However, county councillors struck by a decision to bar teachers from attending magisterial duties and other functions - and dismissed queries from the NUT, whose county secretary, Mr George Dixon, is himself a JP, and from the NAS/UTW about the legality of the decision.

Mr David Hart, general secretary of the 21,000-strong National Association of Head Teachers, said: "As far as the NAHT is concerned, the local authorities do fall into two quite separate sections - those who are being sensible and are giving heads as much freedom and flexibility as they can and those who are behaving quite unreasonably."

"The latter category include some who are insisting heads should keep pupils on the premises at lunchtime and some who are even insisting that the heads should cover when teachers are absent from lessons. Neither of these courses are following local education authorities to get away with."

He said that Wirral, Liverpool, Humberside and Bexley all fell into the latter category.

Pay dispute, page 3



An illustration from the award-winning book of children's poems, *A Visit to William Blake's Inn: Poems for Innocent and Experienced Travellers*. Three pages of reviews look at children's books world wide, pages 27 to 29.

Beware of the word

It is time already for the first word warning of 1982. Or, perhaps, non-word. Twice last week "presentation" was revealed as a key-word in the current lexicon of Cabinet Ministers.

First came the correspondence between Sir Keith Joseph and Sir Geoffrey Howe which fell into the hands of *New Society*. Quotations from Sir Keith's letter about the appointment of Lord Rothschild, the Think Tank man, to conduct an official inquiry into the work of the Social Science Research Council hinted that things might provide arguments for closing it down altogether.

"I feel confident about the quality of the conclusion which would emerge," and the presentational advantages of proceeding with a tried and respected operator.

Within a day or two, *The Guardian* had chanced upon another ministerial letter, this time from Lady Young, now responsible for the Civil Service, to Mrs Thatcher. Setting out the case for nurses, teachers and others to put in more towards their inflation-proofed pensions, she also spelled out the reasons against allowing the pensions benefits of people in public service (or retired people in public service) to be reduced from the public purse.

The warning is necessary because it is catching on. Monday of this week a senior member of the TES staff was caught out by a presentationally sound but really deadly "It will be easier to con them in the Chamberlainian if."

Prolonging the agony

Did Neil Kinnock know how "ideologically unsound" his audience was going to be when he agreed to address the Oxford Conference in Education at St Catherine's College last week? For this innocuously named affair was once the Junior Public School Masters Conference.

Founded in 1930 and organized at Harrow School by T. F. Conde, the conference was originally meant to help young public school masters cope with the change in the relationship between masters and boys; from that between father and son to that between older and younger brother. It has since broadened its aims and title several times, chiefly to reflect the inclusion of teachers from state schools and women. But last week, although there were a few "school mistresses" dotted about, the conference was still heavily male and heavily public school. Attempts to involve young teachers from maintained schools had, it seemed, failed because of its timing and the £70 fee required.

Into this unusual setting stepped the Labour Spokesman on Education - 25 minutes late as his secretary, no doubt, in an attempt to sabotage his speech, had sent him off to the wrong college. But Mr Kinnock, though flustered, was fluent as ever, and showed absolutely no sign of being rocked by his audience's boat.

In a speech of astounding length and complexity the abolition of public schools was not even mentioned. Charmed as his audience was, somebody had to ask the rude question. It fell to a not-so-junior master from Hallowbury to suggest briskly that Mr Kinnock could save money by allowing the independent schools to survive. So would he? "Not if you have a prolonged Labour Government," replied Mr Kinnock mysteriously. "Oh," twittered a Public School Mistress. "I thought you said the wrong Labour Government." Mr Kinnock smiled wilyly.



"Just tell me... at the end of your lessons, do they murmur 'ineffective, ineffective'?"

Bassoon time

Mr John Manduell, principal of the Royal Northern College of Music, had a good tale to tell the conference about how to put a child off music lessons. Because of bizarre timetabling at Hallowbury School, where he was a pupil, the young Manduell had to go off and study the bassoon during French lessons.

"Ah!" the French master would exclaim jealously when he returned from his exertions, "and how is your bagpipe?"

Aristides

Next week

■ The Year of the Scout: Virginia Making reports how the movement began 75 years ago by Baden-Powell is making out in the modern world.

■ Books: Catherine Jones reviews the latest books about feminism; Colin Leach reviews two new sociological studies of education; ■ Extra: Economics and Business Books.

£2m set aside to increase colleges' role in industry

by Sarah Bayliss

An important new government programme to get universities and colleges more involved in industry is to be revealed shortly. The main aim will be to establish refresher courses for employees, paid for in full by their employers.

The campaign will be called Professional Industrial and Commercial Updating (PICKUP) and is to be announced by Sir Keith Joseph, the Education Secretary, in about six weeks time.

About £2m has been earmarked for PICKUP. £1m has already been allocated in a loan to the Open University for developing short courses for people in mid-career. As those courses begin to bring in fees the loan will have to be repaid to the DES.

The Further Education Unit has also been allocated £100,000 a year for the next three years to develop curriculum materials and special projects for the refresher courses.

Other funds will be made available for one-day regional workshops to encourage employers and colleges to press on with the idea.

The campaign, which Sir Keith will unveil at a special conference organized by the British Association for Commercial and Industrial Education in London on May 18, is partly a response to the Government's general concern about the competitiveness of British industry. Officials working on it emphasize the need for professionals to keep up with new technology and styles of management.

The programme also represents the DES's official response to a discussion document launched 18 months ago about continuing education and vocational provision for working people.

Sir Keith is expected to draw attention to examples of good practice already working in this field. Cranfield Institute of Technology and Loughborough University of Technology have done more than any other institutions so far to arrange fee-paying courses for industry. But there have also been local initiatives at Leicester Polytechnic, Leeds University, the London and Manchester Business Schools.

Dismissal threat to union leader

A teachers' union leader was threatened with the sack this week if he continued to spend most of his time on union business.

The threat was made against Mr Jim Ferguson, secretary of the Liverpool Association of the National Union of Teachers, by Sir Trevor Jones, Liberal leader of the city council, while the teachers continued their industrial sanctions in the city.

Sir Trevor claimed that Mr Ferguson was spending four days a week on union business and said that he had now been told he could not have so much leave from the classroom. "If he persists he will be subject to disciplinary proceedings which could ultimately lead to his dismissal," he added.

The threat provoked an immediate outcry from the NUT, whose deputy general secretary, Mr Doug Mack, said: "The NUT will give full support to any local officers threatened in this way. If there is a dispute about time off, there are agreed local procedures for dealing with it."

Five lined up for top ILEA job

A shortlist of five has been drawn up for the highly-paid and demanding post of education officer at the Inner London Education Authority.

The five names chosen from 17 applicants are: Mr J. A. Barnes, chief education officer of Salford; Mr A.H.R. Calderwood, county education officer for Cleveland; Mr John Mann, secretary of the Schools Council; Mr B. Oatley, deputy county education officer for Kent and Mr W. H. Stubbs, director of education for schools in ILEA.

Final interviews will be held on April 22 and 23 by a panel of 14 chaired by Mr Bryn Davies, Labour leader of the authority.

Sir Ashley Bramall, former leader, will be a member of the panel alongside all the authority's sub-committee chairmen, three Conservative members and two teacher representatives.

Mr Peter Newsum, the present education officer, leaves his post on August 31 to become chairman of the Commission for Racial Equality.

The job, the most senior in local education administration, carries a salary of £32,000.

This week

Ulster merger 3
Inside Hereford and Worcester

Cutting back the core

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Overseas News
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Talkback
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Review
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4 Resources 30
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Platform

The Archbishop of Canterbury, Dr Robert Runcie, entering the debate on church schools, strongly criticizes C of E schools so keen to be fashionably liberal that they treat Christianity as just one item on a 'creedal smorgasbord'

Making Christianity the living tradition

One of my anxieties is that, in our efforts to make Christian education responsive to changes in society, our response is more to certain fashionable liberal imperatives rather than to obligatory and long-standing educational ones. Such things matter, of course, but today's immediate relevance is usually tomorrow's rapid obsolescence. Religious education is in danger of being integrated out of existence by assimilation to moral and social studies.

Similarly, while recognizing that a truly pluralistic society — if such we are — should not merely tolerate diversity but value and nurture it, I must also express the fear that, at times, we seem tempted to sacrifice too much of our native Christian tradition on the altar of multi-culturalism.

Just as in early Victorian England, Christian education was erroneously cast as the key to social order so, in

I wonder whether we, as Christian educators, are selling Christianity short by carrying our anti-confessionalism too far

the late twentieth century, we must take good care not to regard it as the key to good community relations.

To be frank with you, when I read in one approved syllabus of the need in religious education "to set Christianity alongside other religions" as if it were part of some creedal smorgasbord or that "it should be part of an education for life in this country that children come to know something of the traditional religion of the land, namely Christianity" (as if Christianity was, like Shakespeare, parliamentary democracy or roast beef — part of a living heritage rather than a living faith) I wonder whether we are not, as Christian educators, selling Christianity short by carrying our anti-confessionalism too far.

It sounds uncomfortably like Gibbon's picture of religion in the Roman Empire, in which the various modes of worship which prevailed were "all considered by the people as equally false, by the philosopher as equally useful".



Dr Runcie... the multi-culturalism in schools goes too far?

There must be admiration for all the efforts reflected in many agreed syllabuses to make Christian education "transcend the information" to avoid the crude confessionalism so clearly inappropriate for publicly maintained schools in a multi-belief society.

My ambivalence is, I hope, of a constructive kind. Highly questionable terms, like "secular", "plural" and "multi-cultural" are banded about so that what is often little more than the newspeak of a section of the intelligentsia gets erroneously elevated to the level of fact.

It is by no means clear whether an age of religious attrition is indisputably upon us, nor whether the divide between the "religious" and the "secular" is any more than the fictional device of the sociologists.

The orthodoxy which proposes an

irreversible decline in mainstream traditional religion has taken some savage blows in the last decade. The situation both in Poland and Iran has been indisputably misread by those observers, nourished by this questionable thesis. Unfortunately, in many parts of our academic establishment it is still virtually unchallenged.

It sometimes seems to be assumed that there is a general support for a kind of religious faith in pluralism itself. Here in London, as elsewhere, the various immigrant communities — Sikhs, Pakistanis, West Indians and Cypriots — represent in their urban enclaves, not so much pluralism, as powerful illustrations of the perennial union of race, culture and religion.

I am also ambivalent about what I

The fear is that, at times, we seem tempted to sacrifice too much of our native Christian tradition on the altar of multi-culturalism

can only describe as a new kind of indirect confessionalism: that has characterized much recent religious education and especially Christian education. Its exponents favour the expression "search for meaning" but seem to confuse mankind's search for meaning with that of the individual adolescent. They see the task of religious education as setting pupils off on their own search for meaning, to work out their own religion.

Such western Protestant liberal individualism, it seems to me, not merely restricts the understanding of religion to intellectual beliefs and morality but also runs counter to the understanding of religion within conservative Evangelical, Muslim, or Orthodox Jew who see meaning as "given" within a pattern of revelation and who do not want their children set on an individual search for meaning. I am not saying, of course, that

many young people are not actively looking for meaning in their lives. But the function of the Christian educator here is surely to help them see the way in which meaning has been given to men's lives through a central religious tradition, rather than suggesting that they have somehow to recapitulate mankind's own search for meaning.

Critics of Christian endeavour in education point to bogies such as indoctrination. Recently, however, it has become increasingly obvious that political models for teaching are far more likely to close children's options than Christian models.

An obvious example is the mushy liberal attitude to sex education: Too light-hearted an attitude to early sexual experience under the guise of "freedom", in fact, closes young people's options at a time when their identities are far from set.

What seems to some a pressure upon children for sexual abstinence, namely a proper concern in teaching religious faith and the Christian tradition, in particular, for a mature attitude to asceticism, in fact, keeps children's options open until choice becomes a mature reality in adulthood. Worship and religious discipline are important and supportive; the real danger is that they become the sole repositories in schools of the Christian dimension.

Critics are right to draw attention to the possible social divisiveness in some areas of a policy by which popular, over-subscribed church-aided schools could, by means of an unbalanced and decontextualized selective admissions policy, create schools exclusively for Anglican children.

The accusation is that by use of subjective means, such as interviews (which the National Society advises against), the process of selection which takes place makes some schools Anglican middle-class ghettos.

The evidence of such research as has been done suggests that there are

very few schools indeed that could be labelled. However, intentions must now be laid bare since the Act compels schools to publish admissions policy. The National Society advises a policy based on founding principles, that is, Anglican, places and non-foundation places. The purpose of each is determined at the time of its founding and the needs of the community and church in the area.

It is a great pity that sections of the London or urban-based media have supposed that this denominational style model is being applied to the generality of Anglican schools. There are just over 1,200 aided primary schools in the country and just over 100 aided secondary schools (that in itself suggests a lot for the future and we should aim at a better balance in our provision).

The majority of our schools in neighbourhood or catchment areas schools. Many are affected by falling rolls; few have the luxury of choosing from a queue at the door; some are threatened with closure as they properly cooperate with local education authorities in reducing available places in their area. There are large numbers of teachers and parish priests struggling in these conditions to ensure that church schools serve the whole community.

What role do I see for Christian education in the 1980s and beyond? I certainly do not see it as merely a part of a minimum body of knowledge designed to present children with what one RE textbook of my acquaintance rather chillingly calls "the appropriate forms of reverence".

Worship and religious discussion are in danger of becoming the sole repositories in schools of the Christian dimension

ence". Nor do I see such education simply as part of our contemporary cultural furniture, to be scrutinized more closely and at greater length than other, non-competing faiths.

For, of the organized faiths representing our culture, Christianity holds the allegiance of the majority of people while other faiths are held by quite small groups distributed somewhat unevenly throughout the country.

Hence Christianity should be the main perspective studied by most pupils — the living tradition of the host community. Put differently, I think all children, of whatever cultural background, need to understand Christianity, its nature and spirit, its truth, claims and its pervasive influence on their present and past.

It is worth pointing out perhaps that although the increasing divorce of personal morality from personal belief is often held to be a conspicuous feature of the secular city (and one widely reflected in our agreed syllabuses) the hard evidence points in an opposite direction. For many Britons, especially the young, social perception, the experience of the Christian faith primarily in terms of its moral imperatives and as a prescription for personal conduct.

This is a shortened version of an address in London last week by the Archbishop of Canterbury to the National Society for Promoting Religious Studies

Governors at loggerheads over leaked guidelines

Bristol campaign 'not a hoax'

by Sandra Hempel

Guidelines on how to take control of school governing bodies, which are circulating in the Bristol area, cannot be treated as a hoax, the chief executive of Avon County Council has decided.

After a brief investigation carried out at the request of the Conservative opposition on the council, Mr Bill Hutchinson says the documents "have to be treated seriously".

The anonymous instructions on how to demoralize heads, cause dissent among staff, pupils and parents, and out-maneuvre other governors, appear to come from an extreme left-wing group but have also been attributed to right-wing elements trying to discredit the Labour Party.

Local politicians and council officials are trying to find the source of the documents, which were "leaked" to one in five of the county's secondary school heads earlier this month. Some governors claim that they are being subjected to tactics described in the document.

At Ashton Park secondary school in Bristol, where the board of governors comprises three Conservatives, one Independent and eight Labour Party members, the minority group claims it is the victim of a campaign to undermine it.

The guidelines include instructions to question constantly statements made by the head; listen for what the head omits in his report; seek to discredit the clerk to the governors; pick awkward times for meetings — 5.30 p.m., 9 a.m. — increase the number of meetings and, if in doubt about the sympathies of co-opted governors, cast doubt on the validity of their election.

Ashton Park governors' meetings have recently been changed from 2 p.m. to 9 a.m. The head's report was rejected at the last meeting, and he will present a new report at an extra meeting next week. The clerk was criticised — the minority groups allege for 45 minutes — over the accuracy of her minutes recently, and the election of two teacher representatives was re-run after Labour governors said it had been wrongly conducted.

"I am quite certain that the guidelines are the work of an extreme left-wing group," said Ashton Park governor, Mrs Gwynnville Lawson, an Independent councillor. "I recognize all the points on the list."

Mr Ben Barker, Labour chairman of the Ashton Park governors, said, however, that neither he nor his colleagues have seen the guidelines which, he believes, are part of a sophisticated "dirty tricks" campaign to discredit Labour governors.

"The problem is that many governors' meetings in the past have been no more than tea parties. I can understand that a few new brooms coming in and questioning the way things are being done might ruffle a few feathers. The trouble is that no one will be able to question anything from now on without being accused of sinister motives."

Mr Barker said that the timing of meetings was changed to suit an adviser from the education department. The head had agreed that in future his report would be presented in a fuller form, and the clerk had been questioned because a vote of seven to three against corporal

punishment had been wrongly recorded as "a narrow majority".

Another governing body where the conduct of Labour governors has been criticised is that of Lawrence Weston secondary school, Bristol.

A Conservative governor, Mrs Jennifer Veal, said that meetings had doubled in length to around three hours, that they were being timed to inconvenience non-Labour governors and that pre-meeting caucuses of Labour governors were taking decisions in advance of the main meeting.

The chairman of Lawrence Weston governors, Mr Terence Thomas, an ex-pupil of the school, said he was "very disappointed and shocked" by Mrs Veal's remarks, which were completely untrue. "Our meetings are run very democratically and everyone has a chance to speak. I know nothing about these guidelines and I think it is probably a case of sour grapes on the part of people who are used to being in control and now find themselves on the other side."

Dr Robert Glendinning, chairman of the Avon education committee, this week issued a statement "repudiating completely" reports that the guidelines had come from the Labour group. The group was dependent on the goodwill of staff, governors and parents, Dr Glendinning said, and it was against its interests to undermine the authority of governors and heads in any way.

He challenged those making the accusations to produce evidence, and said that the rumours had driven a "wedge of suspicion and distrust between governors and their schools".

Lorry bursts through pickets at Barking

by Richard Garner

A lorry crashed through the gates of a secondary school in Barking and Dagenham, scattering teacher pickets, as the indefinite strike by members of the National Union of Teachers went into education spending on its fourth week.

The incident happened on Monday morning outside Pardoles Manor school and brought claims from the union that the Labour-controlled council was using non-union labour to get oil deliveries to schools.

Later the driver was persuaded not to enter another school — Manor Junior school — after teachers had threatened to sit down in the road in front of his vehicle. Another picket was threatened with a wrench.

So far teachers have managed to shut completely 10 schools in the borough through their action — which is over a threat to axe 149 teachers' jobs over the next year.

Other schools are also affected and leaders of the council met the NUT on Monday evening and agreed to reduce the number of jobs

to be axed by 30. Teachers said afterwards that this did not go far enough, but both sides are to meet again next Monday.

Meanwhile, parents have kept up pressure on the authority. On Monday about 300 parents and children went to the town hall but were prevented from going ahead with plans to stage a sit-in demonstration. Police were on hand and a delegation of four was later allowed to meet education officials to call for the cuts to be reversed.

Also this week, a council lorry driver was suspended from his job for refusing to cross an NUT picket line. This led to an unofficial walk-out by almost 100 council employees — hitting refuse collection, road repair and housing maintenance.

Mr Alfred Bush, the chief education officer, said that he was investigating the claims about the use of non-union labour. He added: "There have been attempts to keep schools open as far as possible."

New hope on student benefits

New definitions of meal breaks and homework for part-time unemployed students have been agreed by the Department of Education and the Department of Health and Social Security.

Officials are discussing the impact the definitions will have on social security payments.

The move follows a row which started when the DHSS began taking claims for the beginning of the year from the "21 hours rule" which allows part-time unemployed people to claim up to 24 hours a week in study without losing their right to social security benefits.

Students were particularly zealous. Many students were called for interview, visited at home and told that their benefit would be discontinued. Since the beginning of the New Year term about 60 students from Newcastle College of Arts and Technology have been reassessed, and around half lost their benefit.

The National Association of Teachers in Higher and Further Education threatened legal action, the Secondary Heads Association wrote angrily to Sir Keith Joseph, and questions were asked in both Houses of Parliament and in an education select committee meeting.

No details of the new agreement have been released, but discussions are understood to have "centred around class-contact time". This and the current talks with the Treasury imply that a slightly more generous line is likely.

Civil servants to study separate funding plans

by Sarah Bayliss

An investigation into the feasibility of separate funding for education is being carried out by a team of senior civil servants.

The team, which will report to Sir Keith Joseph, the Education Secretary, in a couple of months, has been asked to establish the pros and cons of ideas expressed in an annex to the Government's Green Paper on local government finance titled *Alternatives to Domestic Rates*.

The annex suggests that the burden on ratepayers could be reduced by removing all or part of the cost of education from local government. Education currently accounts for more than half the bill for local services.

Last week at a special meeting of the Association of County Councils to discuss the Green Paper, all ideas for reforming education finance were firmly rejected by Conservative leaders on the grounds that they threatened local autonomy.

"Education is local government," said Mr John Horrell, chairman of the ACC and chairman of education in Cambridgeshire. "If it is to be real local government we've got to have responsibility for the financial management of it."

Later the ACC took a surprise vote in favour of the introduction of a poll tax — a per head tax on all voters — to help supplement the income from an improved rating system.

The Whitehall committee on education funding is chaired by Mr Edward Simpson, a deputy secretary in the Department of Education. Civil servants from the Department of the Environment, the Home Office,

Treasury and Scottish and Welsh Offices are among the members.

So far they have met once. They are concentrating on the idea of a separate block grant for education, having thrown out two other proposals. These were for 100 per cent Whitehall funding or simply the central funding of teachers' pay.

It is understood that the DES's sustained enthusiasm for education block grant has been received coolly by other government departments. They will take considerable persuading if the idea is to be recommended in the final report to Sir Keith.

To fulfil the Government's primary aim to reduce the burden on ratepayers, the DES suggests that 80 per cent of education funding is met by Whitehall out of taxes, instead of the current 56 per cent which is paid out in rate support grant for all local services. The shift towards more central grant could reduce rates by more than 20 per cent.

The grant related expenditure assessments (GREs) for education which already exist under the block grant system would be used to determine how much grant each authority would get.

The committee should report to the Minister by June and a government announcement on the Green Paper could come before the summer recess.

The ACC's move in favour of a poll tax was fiercely opposed by the Labour group which represents a number of shires. Members said it was an "infamous suggestion" — an unfair tax which would charge the poor the same as a millionaire, and which would lead to a "mass exodus" from the electoral registers.



Banners out... parents and children demonstrate outside Barking Town Hall

MSC changes plan for leavers

The Manpower Services Commission proposal to take all school leavers out of the labour market for at least a year has been dropped. A voluntary scheme offering training to everyone is likely to be put to the Government instead by the commission.

The high-level task group which is trying to draw up a comprehensive training scheme for all 16 to 18-year-olds in place of the youth training scheme for unemployed leavers proposed by Mr Norman Tebbit, the Employment Secretary, has rejected the idea of "common trainee status" for all leavers.

CBI representatives on the task group have now agreed to demands from other members that youngsters should be allowed to take jobs outside the scheme as long as their employers guarantee to provide approved training.

Staff transfers agreed after Suffolk comprehensive inquiry

Terms were agreed this week for the transfer of five teachers from Sudbury Upper School — the comprehensive school in Suffolk where relationships between the headmaster and some of his senior staff were said by an inquiry to have broken down.

Meanwhile, a new acting headmaster has been appointed to the school following the voluntary departure of the previous head, Mr Gordon Gooden. He is Mr Wilfred Horsfield, who has moved from the headship of another school in Ipswich.

The agreement between the authority and the two teachers' unions concerned — the National Union of Teachers and the National Union of Schoolmasters/Union of Women Teachers — means that two teachers have accepted premature

retirement while others have been redeployed.

All five will stay at the school until the end of the academic year in order to maintain continuity for pupils taking examinations.

A joint statement agreed between the authority and the five teachers stressed that the agreement has been reached without recourse to disciplinary procedures and that the teachers' competence was not in question.

However, a former governor of the school, Reverend Peter Hollins, said it was "quite appalling" to treat the staff in this way, adding: "The staff concerned are dedicated, responsible teachers who have made a valuable contribution to the life of the school."

EXTRA MATHEMATICS EXTRAS

The 16 page Mathematics Extra in this week's issue containing an article by Dr W. Cookcroft is available in reprint form. This, together with a four-page résumé on the Cookcroft Report, originally published in The TES, will cost 80p (p & p included). Send all orders to the address below, enclosing your cheque/PO (no cash please) made payable to Times Newspapers Limited.

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Classroom failure to spot gifted

by Diana Spencer

Comprehensive school teachers fail to spot most of the gifted children in their classrooms, a research project revealed this week.

The study, funded by the Department of Education and Science and carried out on behalf of the National Association for Gifted Children, surveyed more than 5,000 children in six schools in different parts of the country.

Under 40 per cent of children classified as intellectually gifted and fewer than a quarter of those found to be "creatively" gifted were recognized as being such by their teachers.

Mrs Frieda Painter, a special education consultant and former education officer of the NAGC, tested all the children in the six schools on the Cambridge Psychological Laboratory's AH2/3 Group Test of Mental Abilities. She then asked their teachers to name those they considered to be exceptional.

She found that two-thirds of the children who proved to be gifted on the tests (408 or 8 per cent of the school rolls) were not named as being particularly able by their teachers.

At the same time more than one-third of the total of 233 children thought by their teachers to be exceptional failed to meet any of the criteria of giftedness in the tests.

The pupils seen as being gifted by the teacher had different characteristics from those not regarded as exceptional. The "recognized" (as

gifted) pupils liked maths and science and wanted to go on to higher education.

The "unrecognized" children liked sport, watched more television, spent less time reading and wanted to leave school and get a job. But they scored higher in a group test for mental abilities than the other "recognized" group.

Mrs Painter found that the two coeducational schools had the highest percentage of intellectually gifted pupils. One was an ex-grammar school in the prosperous South-East, the other a former secondary modern in a Midlands industrial village.

But she concluded that opportunities for the gifted were better in the ex-grammar school because, although the IQ mean for pupils in the Midlands school was slightly higher than in the South-East school, the average number of GCSE O level passes per pupil was 8.5 in the South-East and 5.8 in the Midlands school.

Mrs Painter recommends that all teacher training courses should include studies on characteristics and educational needs of gifted pupils; all secondary pupils should be screened to help detect those with exceptional ability; links with further education colleges and polytechnics should be explored to give the gifted an enriched curriculum, and gifted children should be allowed to move into an older age group at school more easily.

Unfair risk in admissions interviews

by Bert Lodge

The practice of interviewing prospective pupils by their parents when deciding admissions to church schools should be abandoned, heads and governors of Church of England schools are advised in a manual of guidance issued by the National Society for Promoting Religious Education.

Critics of church schools have always argued that the interview could lead to a selective admissions policy which was both arbitrary and unfair, favouring white middle-class children.

The manual also lists criteria for selection and recommends a proportion of places should be classed as "non-foundation", to be filled without regard to the pupils' church connections.

Governors are warned that the Commission for Racial Equality considers that allocating places to racial groups in strict numerical terms could be illegal.

The manual reminds governors that under the 1980 Education Act parents have a right of appeal if their child is refused admission. "Interviews cannot by their nature be sufficiently objective, and the practice of interviewing could cause governors and heads very appreciable difficulty and embarrassment in the appeals committee."

"It is recommended that the practice of interviewing applicants should be abandoned, if at all possible. This does not preclude the possibility of the governors inviting prospective parents and pupils to view the school before submitting an application."

Admissions criteria related to religion include: whether the child has been baptised or baptised and confirmed; whether the parents are, and for how long they have been, active worshipping members of an Anglican congregation; whether either parent is involved in the work of a local church; whether in the case of second or middle schools the child has hitherto attended a church primary school; whether the parents are active worshipping members of any non-Anglican Christian church; and whether the parents, although worshipping in another faith, wish their child to attend a church school because of its specifically religious emphasis.

European approach to be debated

by Richard Garner

British teachers are urged to move towards a similar approach to their professional responsibilities as their counterparts on the Continent following the recent European Court of Human Rights judgment on corporal punishment.

This will be one of the major issues to be debated at this Easter's conference of the National Association of Schoolmasters/Union of Women Teachers, which will debate a motion which "looks forward to the time when British teachers have the same professional obligations as their colleagues in EEC countries."

Mr Terry Casey, general secretary of the NAS/UTW, said: "In effect what it amounts to is that we shall be saying 'we'll teach the kids and what's done about their drugs and sex problems is no problem of ours'."

Mr Eric Powell, the incoming president of the union, said he would be making the point in his presidential address that the Continental teacher saw himself or herself "as an instructor not a teacher."

The court ruling was that parents should be allowed to stipulate that their children should not be caned at school and Mr Casey warned that this would lead to more suspensions in schools.

"The head will have no option but to suspend children," he added. "In effect, the parents will have the option of a week's suspension or a few strokes of the cane for their children."

MPs urge better deal on play

Urgent government action to promote better facilities for children's play was demanded by an all-party group of seven MPs on Wednesday.

They tabled a Commons motion calling on the Government "to recognize the importance of children's play, particularly in inner-city areas, and to accept overall responsibility for a service to promote, under the coordination of one designated Minister."



UP SCHOOL... that was the cry from 50 Slindon College, Sussex, boys when Tudor Maestro ran (unsuccessfully) in the school colours at Fontwell on Tuesday. The hurdler is owned by Mr Paul Wright, headmaster at Slindon, which sponsored two of the day's races to celebrate its tenth anniversary.

Inspectorate outlines reasons for lack of success in Wales

by Biddy Passmore

Another report describing the under-achievement of children in secondary schools in Wales has been published by the Welsh Office.

The report, written by Her Majesty's Inspectorate, coincides with the publication of regional figures showing that more pupils left Welsh schools without a public examination pass in 1980 than in any English region.

Consistent absenteeism, low teacher expectations, inadequate planning and marking of pupils' work and staff teaching subjects in which they are "at best, marginally qualified", are all given as reasons for low achievement by the Inspectorate.

This is most serious among pupils in the middle ability range, the report says, and it is here that a larger input from teachers would reap the greatest rewards.

The report, called *Planning for Progress*, suggests that schools should make every effort to establish closer links between home and school.

It says that truancy, largely condoned by parents, is clear evidence of their lack of concern. More than a quarter of fourth and fifth year pupils are regularly absent from many schools, particularly in urban industrial areas.

The worst effects of this absenteeism are that pupils of average ability, who should be capable of moderate success in a range of subjects at CSE, fail to do themselves justice, the inspectors say. "Pupils perhaps too easily deceive themselves that to miss a morning's lessons will not matter greatly, but the cumulative deficit of many missed sessions, scattered through the school year, can be totally disabling, destroying the continuity of study and undermining the

habit of concentration."

The inspectors warn against excessive use of setting in the early years of secondary schooling, which makes it harder to monitor pupils' progress. They also condemn schools where less able pupils are consistently given less experienced or less specialized teachers than other pupils.

Where setting is used, it often means that sets at the lower end of the ability range are particularly small, the inspectors note, while those of average and rather below average ability - where under-achievement is most widespread and damaging - are large. Again, mixed ability groups are often too large.

The report calls for better links between primary and secondary schools so that secondary subject specialists can build upon a known foundation rather than delaying progress in a "diagnostic" term or year, when the child's impetus and resolution wanes.

Teachers should make more effort with the planning and execution of teaching schemes, the inspectors say. "A high incidence of under-achievement is often associated with poorly planned teaching schemes, monotonous presentation and a lack of commitment to marking and careful assessment."

On disruptive pupils, the report condemns the tendency for class teachers to resort too readily to a referral process which will take the difficult pupil out of the classroom and into the hands of a pastoral specialist.

Planning for Progress a contribution to the debate on achievement in secondary schools, HMI (Wales) Occasional Paper, free from the Welsh Office, Education Department, Cathays Park, Cardiff.

Four Essex sixth forms ruled illegal

by Sandra Hempel

Four sixth forms in Colchester are illegal although they have been operating since 1975, education officials have decided.

A plan to close the sixth forms in 1983 and send pupils to other schools in the area will come before an education committee's schools and education committee next month. In the meantime, the parents of the pupils in the schools have formed an action group to fight the proposals.

Statutory notices published last week reorganizing seven years ago, a clause designed to allow pupils to stay on to retake O levels, the sixth forms have developed.

Education officials claim that the sixth forms are too small to offer pupils the necessary stimulus and range of courses. The schools, Alton Blaxill, St Benedict's, Thomas Lord Audley and Wilson Manning offer eight, nine, eight and four level courses respectively, although pupils can take subjects at O level through a consortium arrangement.

This compares with about 18 subjects at established 11-18 schools with around 10-12 subjects, but in 11-18 schools which were set up as 11-18 schools in 1975 and are still developing, an education department spokesman said.

Mr Geoffrey Kerr, headmaster of Thomas Lord Audley school, said: "I thought the scheme silly, particularly as the education department supported the schools with their sixth forms through the consortium arrangement."

"It might well be that, significantly, we shall have a sixth form or a college in the town," he said. "This might be the right thing to do, but just tinkering about with the system like this will create chaos."

Parents had already threatened to boycott the schools if they lost their sixth forms. Mr Kerr said: "I claimed to have the full support of the staff and the vast majority of parents."

It was wrong to suggest that a few pupils were not properly catered for. The sixth forms had not been given time to develop properly. "Even if we are the only school in the town to offer calligraphy at A level and one of only two to offer Italian," he said. Miss Paddy Trenow, teachers' representative on the education committee and deputy head of Paddy Morant school, an 11-18 school which is not involved, said: "Teachers were particularly upset because there had been no consultation about the proposed move."

Youngsters feel pinch as pocket money shrinks

by Diane Spencer

Britain's 10 million children are feeling where it hurts most - in their pockets.

The Walls ice cream company's annual pocket money monitor reveals that children's income has been slashed by a "massive 16 per cent" this year. Last year the average weekly income for five to 16-year-olds was £1.13. Now it is 94½ pence. This is the first drop in pocket money recorded since the monitor - a survey done by Gallup for Walls - started eight years ago.

Although social background makes little difference, children in the south are suffering less than those in the North, the Midlands and Wales. In the south, the average is down 4 per cent to £1.09 compared with 91 pence in the Midlands and Wales (down 11 per cent) and only 78 pence from £1.18 - a drop of 34 per cent, in the north of Scotland.

Boys are faring worse than girls: they now get less than 93 pence on average (down 19 per cent), compared with 95 pence for girls (down 12 per cent).

The youngest children are the most affluent: they now get 64 pence on average, a rise of 9 pence a week, which makes up for last year when they were the only age group to get less.

Legal doubts over ban on belt

The decision by two Scottish local authorities to ban the belt in classrooms could be illegal, a senior Scottish advocate has said.

In his opinion Strathclyde and Lothian councils' decisions to ban the belt had been done without proper consultation with teaching staff and unions and ran counter to the advice of Mr George Younger, Secretary of State for Scotland.

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Union prepares for battle to restore pay

by Richard Garner

Teachers' leaders are preparing to fight next year to restore their pay levels to where they were after the best pay deal the professor has ever been given.

The main theme running through the salaries debate at this year's annual conference of the National Union of Teachers (NUT) will be a call to restore pay levels in next year's negotiations to where they were after the Houghton committee of inquiry into teachers' pay nine years ago.

In addition, a memorandum on teachers' pay re-emphasizes the need for the pay levels of teachers to be set by comparing their pay with other professions and occupations.

The call is hardly new or revolutionary but suggests teachers' leaders are beginning to think the time has come for another inquiry into their pay levels following two years in which their pay has fallen behind the level set by the Clegg commission inquiry into teachers' pay.

Interestingly, since the memorandum was prepared before this year's pay talks got under way, it also calls for direct access to independent arbitration to be written into the teachers' pay negotiations structure again.

Teachers lost the automatic right to take their pay claim to arbitration if negotiations broke down when the

government changed the way their pay talks were conducted last year - and insisted a pay claim could only go to arbitration if both sides agreed. The memorandum is one of four to be debated at this year's conference - the others include one on "education for national survival", one on internal union organization and one on the way the conference conducts its business.

The paper entitled "Education for national survival" calls for a substantial expansion of nursery provision so as to provide enough nursery places for all two-to-four-year-olds whose parents wish their children to have a place.

MSC accused of being out of touch

by Sandra Hempel

An official from the Department of Education has criticized the Manpower Services Commission for not knowing what is going on in colleges of further education.

Mr Richard Chattaway, head of a DES further education division, said he wondered how in touch the commission was with what was going on in FE colleges. He said: "Is there not an element of re-inventing and

re-labelling the wheel? Are they familiar with developments in FE or do they just read Mr Chris Hayes's publications?" Mr Hayes is a consultant and former MSC executive.

Mr Chattaway's comments, at a meeting of the Association of Vice Principals in Birmingham last week, followed a speech by Mr Graham Kendall, head of programme development in the MSC's Training Services Division, on the New Training Initiative. Mr Kendall had been

describing the background to NTI and the current state of development.

But another speaker, stressed the importance of working with the MSC. Mr John Temple, general manager of the Topshop job creation and training scheme in Coventry, said it was not enough "just to hold out one's hand".

He added: "We must be prepared to make a commitment of resources, as active not passive partners."

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Jewish schools stay independent

Three Jewish private schools which applied in 1980 to be accepted into the maintained sector have been told they must remain independent.

The governors of Lubavitch House boys' and girls' primary and Yesodey Hatorah girls' primary, all in Hackney, applied to be classified as voluntary aided. This would have meant the Inner London Education Authority would take over the running costs, estimated at nearly £1m a year.

But the ILEA objected that it already had surplus primary places in Hackney and a letter from Dr Moses Boyson, junior minister for schools, informed the governors last week that he was also not satisfied they could meet current school building regulations. He had doubts about the secular curriculum and the professional qualifications of the staff.

A confidential report by local authority inspectors on the Yesodey Hatorah school showed most of the staff did not have recognized teaching qualifications. Similar criticism was made of the Lubavitch schools though in all three the pupils were found to be cheerful and well-behaved.

Boyson looks at sex education

Dr Rhodes Boyson, junior education minister, has disclosed that he is monitoring books and leaflets on sex education recommended for classroom use by the Health Education Council and the Schools Council.

Dr Boyson, who last week told MPs that some sex teaching aids in schools were repulsive, said this week that a lot of language in the literature was unpleasant and "all sorts of strange deviousnesses are disguised as normal". He also said there is one book which is being repulsive. They are not considered.

"We are looking at a whole series of books on sex education recommended for classroom use and teacher use by the Health Education Council and the Schools Council."

Pupils lit fire

Pupils were called to a Grimethorpe comprehensive school last week when a fire broke out in the main hall. The fire was caused by a lit cigarette in the playground. A 15-year-old boy was arrested.

The pupils, aged between 12 and 17, were believed to have been protesting about the use of the case in the playground. They were campaigning for it to be banned.

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Planting ideas

The Horticultural Education Association is calling for a unified system of courses and qualifications throughout Britain for agricultural education, including amenity and commercial horticulture.

A working party, set up two years ago to consider the future of horticultural education and training, is currently recommending a single, unified body for all courses below degree level, which would bring about a unified system.

Its recommendations also include local education authority grants for

Warning on danger of language ghettos

Well-meaning teachers could unwittingly be creating ghettos for ethnic minority children by encouraging them to develop their first language.

This could lead to separating pupils from the mainstream and increasing the likelihood of them doing less well than their classmates, says a pamphlet published this week by Issues in Race and Education, a teachers' publishing collective.

This could happen, particularly if mothers' tongue maintenance classes, with other children of the same ethnic group, are set up in the school, or if they are set up in the home.

The main political effect of the ghetto is to leave the mainstream policies intact and unchallenged: language policies in South Africa have been designed with this in mind, claim the authors.

They point out that the school riots in Soweto were mainly in response to the Government insisting that teaching must be given in the child's first language for the first six years of primary school.

To avoid the formation of ghettos, the authors say, mother tongue teaching must be supported in mainstream teaching. If pupils are withdrawn, they must not miss vital subjects and their small language class should relate to what happens in the

main classroom.

Before any first language teaching is introduced in a school, parents must be consulted. "It would be chauvinistic for any school to decide which language should be taught, and which methods should be used without close collaboration with the community."

The pamphlet gives examples of good classroom practice, a model school policy on mother tongue and information about recent publications.

Mother tongue - policies and practice Issues in Race and Education, 11 Carleton Gardens, Brookwood Road, London N19 5AQ, 50p.

ILEA plans reduced intakes

Six Catholic schools will be involved in amalgamations and two others, together with eight county schools, will have their intakes reduced. It plans to put forward this week by the Inner London Education Authority for reforming secondary school organization in Westminster and Camden are accepted.

Four public meetings will be held before the authority's development sub-committee considers the proposals in July.

Although the Westminster Roman Catholic schools' commission had indicated acceptance that fewer denominational places would be needed, a spokesman said this week that they could not comment on the proposals until they had been studied.

Mrs Valerie Jenkins, head of Haverstock School, whose parent-teacher association conducted a vigorous campaign to ensure that if amalgamations were necessary they should be confined to the voluntary sector, said that Haverstock was satisfied with the plan.

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When Mr Neil Kinnock, Labour's education spokesman, still lived in selective Kingston upon Thames he went to visit Labour councillors in Hereford and Worcester.

"I come from the Guatemala of the education service," he said. "Well, welcome to the El Salvador," came the reply.

Tranquil Hereford and Worcester does not sound like a place where educational headlines are made. Yet the council has rarely been out of the news since the day, last February, when a High Court judge ruled that it could not charge for instrumental music tuition.

That ruling was followed, a few months later, by county council elections and a dramatic shift in politics. Out went all but a handful of the Tory Old Guard, leaving a hard core of right-wingers in charge.

The former chairman of the education committee, moderate, pro-comprehensive John Arnett, was replaced by a man with a name straight out of Agatha Christie: Lieutenant-Commander Nigel Laville.

Normally, that kind of name would evoke the sort of retired officer who has been chairing the education committees of shire counties for generations - elderly, in favour of higher spending and content to let the officials run the show.

But Nigel Laville is not elderly (he is 47), he likes value for money, and he wants to run things himself. He drives himself hard - six hours of council business a day, in addition to his work as a financial consultant, have been the rule in recent weeks. And he has his sights on a seat at Westminster.

Politicians and officials of all parties seem to agree on his character. "Thoroughly competent" and "ruthless" was the general verdict, although one or two also ventured that he was a pleasant man to have a drink with. But there was no doubt about the driving ambition: "He's a man who knows his mind," said one. "He's prepared to do everything he can to assist in achieving his political objectives - he rides rough-shod over people."

"Thoroughly competent and ruthless" was the general verdict. "He's prepared to do everything he can to achieve his political objectives - he rides rough-shod over people."

Did he care about education? "No," came the flat reply. "He cares about spending public money in the most careful way."

Appropriately enough, the first matter to which Mr Laville and his new committee turned their attention was getting the education budget under control. By all accounts, the attempt was long overdue - although others would have gone about matters in a different way. Years of uncertain financial management in the county had been aggravated by a £2m underestimate of education spending last year, mainly because there were more teachers than planned on the

Biddy Passmore looks at Hereford and Worcester's education rows . . . and meets Nigel Laville, the man at the centre of them

Facing up to the mud slingers

payroll. Rates had been held down - it was, after all, election year.

A £2½ million cut involving the loss of 215 teaching posts - in line with falling rolls - was, therefore, drawn up last autumn. But that was just the first, modest instalment. In late January, when the budget for the coming year was all but fixed, the DES suddenly sent a letter to the county council telling them that their allocation from the advanced further education pool was to be slashed by £2.5m. Sorry for the delay, it said, the computer had got frozen.

Other local education authorities fared just as badly. But the news reached a council completely unprepared, with nothing in the balances and a budget already nudging the government-imposed spending limit. As Mr Laville and his colleagues were not prepared to contemplate exceeding the limit through a higher rate rise, there was no alternative to further cuts.

So a bigger cuts package was hastily drawn up. This involved the loss of a further 245 teaching posts, abolition of the primary school meals service and the scrapping of instrumental music tuition.

In response to vigorous protests, Conservative leaders decided to reduce the music cut, keeping 25 out of 62 pre-pastic teaching posts and setting up music centres in large towns. But the other cuts, totalling £4½ million, went through despite a demonstration by 4,000 teachers, parents and trade unionists outside county hall.

Their effect on schools will be "severe", according to local officials, although it is not yet clear what their impact will be on the curriculum. A number of middle schools, already struggling to keep subjects going as rolls fall, expect to lose their second language teaching as well as remedial groups. One middle school, Burchin-sale in Redditch, has already had to cut out art and craft.

Pupil-teacher ratios where, as Lieutenant-Commander Laville admits, the county already lies danger-



Making headlines: Nigel Laville and Worcester

ously near the bottom of the league, will get worse. Some supply cover will be left, and a further 200 teachers will need to be redeployed.

The full primary meals service will disappear from half-term but it is not yet clear what, if anything, will replace it. At the very least, schools will have to buy in sandwiches for pupils eligible for free meals to comply with the law. Mr Laville says he hopes private contractors - where possible employing existing meals staff - will step in. Meanwhile, however, 1,100 redundancy notices have gone out.

Cuts totalling £4½ million went through despite a demonstration by 4,000 teachers, parents and trade unionists outside county hall. Their effect on schools is expected to be severe.

But the cuts in Hereford and Worcester tell only half the story. Running alongside the spending war, an equally fierce battle has been raging over secondary reorganization in Worcester, the only part of the county which still has grammar schools.

Following the decision of the boys' grammar school to go independent, the new council voted last year to turn the girls' grammar into a new educational "super school", creaming off 125 of the county's brightest pupils each year, on the basis of a special 11-plus test. Worcester's existing secondary modern schools would become 11-16 comprehensives under the scheme. Worcester Technical College, which already provides half the A level tuition, would in effect turn into a tertiary college - if the scheme is approved by Sir Keith Joseph.

The plan has caused outrage among parents and teachers in the county's schools, who see it as a vote of no confidence in the comprehensive system, already under attack from the cuts. They also point out that, although nominally for the whole county, it will in effect draw the top four to five per cent of pupils from the Worcester area only. "A new school for a privileged few in Worcester - bigger classes, less music, second class education for the rest", runs a local parents' leaflet.

The focus for their anger is Lieutenant-Commander Laville, who has championed the scheme - and not hesitated to criticize comprehensive schools in the process.

Malvern, where Lieutenant-Commander Laville has a Gothic house perched on a hill, is one of the areas where opposition to the "super school" scheme is greatest. It has two flourishing comprehensive schools, driving a predominantly middle-class area, and both are close enough to Worcester to suffer from the presence of a highly selective school.

Malvern parents suspect that Lieutenant-Commander Laville wants to destroy the comprehensive system completely. His disparaging remarks about comprehensive schools last year so incensed the parents of the two schools - Malvern Chase and Dyson Perrins - that a meeting of 600 organized by the two parent-teacher associations passed a vote of no confidence in him.

But what does Lieutenant-Commander Laville himself think about comprehensive schools? "I don't think all comprehensives are hopeless," he says. "What I do think is that as a system it is less good for getting the best out of children than a school suited to their particular needs."

Perhaps surprisingly, he does not want to go back to the old selective system. "The split created the diffi-

culty of catering for the late developer," he says. "When the grammar school took the top 24 per cent, it was unlikely that those at the secondary modern would develop academic interests."

By separating a small number of the most able, he argues, a higher degree of expectation is put to stretch those few to the top while allowing comprehensive schools to concentrate on the rest where they are generally considered to be weakest - the middle range ability. Those left behind in the comprehensives would still be able to benefit from a school providing an academic curriculum, with a number of O and A level candidates.

The argument sounded plausible. Mr Laville's drawing room, however, went down like a lead balloon. A packed meeting of 750 parents, teachers at the Chase School, week. His view that the purpose of education was "to stretch the talent, particularly to work at winning boys - and calls. When he finished speaking, he sat down to utter silence - the equivalent of well-behaved Malvern, to being edged off the stage.

Mr Michael Oborski, Lib spokesman on the education committee, who was giving the overview, challenged Mr Laville to say that comprehensive schools were working. The results for the Chase and Dyson Perrins Schools were outstanding, he said.

Afterwards Mr Bill Frier, chairman of the Chase School's parent-teacher association asked: "What happens to someone who makes grade at 11 and then fails - are they going to be thrown out as rejects even though they're in the top 10 per cent?"

If the "super school" scheme approved by the Education Committee, (the two-month period is not yet over) the dreams of extending the system to other parts of the county, however, he would still have a chance of support from some conservative colleagues.

"I don't think all comprehensives are hopeless. What I do think is that the system is less good for getting the best out of children."

Mr John Allen, chairman of the further education sub-committee, said this week that he was "not a fan of the scheme" and would certainly be against any spread of it in current circumstances. And Mr John Arnold, former chairman of the education committee, has already said it would oppose a super school in the former Herefordshire area.

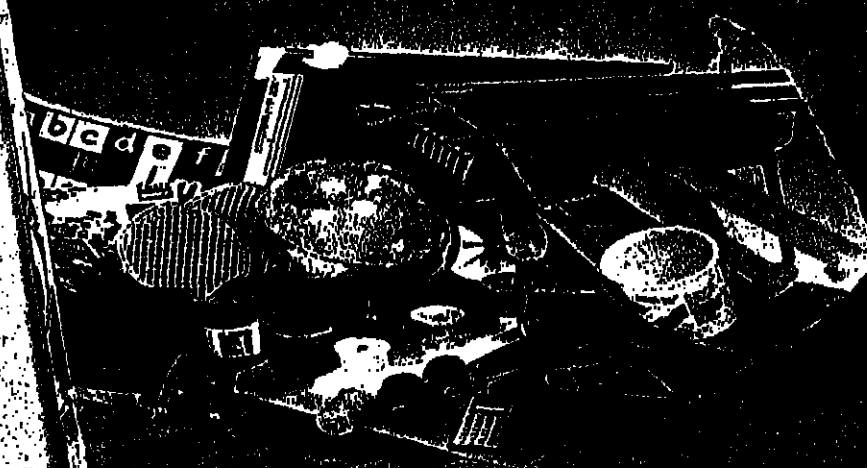
But Lieutenant-Commander Laville seemed unmoved at his reception by the parents' meeting last week. He stated quite openly at one point that he knew his supporters were not in the hall.

Did he not get tired of having mud thrown at him? "No," he replied. "I rather enjoy it."

Muse pledge, page 10

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Teach the moral virtue of profits - Sir Keith

by Mark Jackson

Schools should preach the moral virtue of free enterprise and the pursuit of profit, the Education Secretary, Sir Keith Joseph, said this week. And teachers who cannot put across the message are unfit to teach about industry, he said.

Sir Keith drew applause from his audience, the Institute of Directors annual conference at the Albert Hall on Tuesday when he told them that not all teachers understood that jobs and prosperity came from profit making, or that free enterprise was essential to a free society.

"I believe this has to be taught within a moral context: the child's imagination has to be seized by explaining the role of business in the modern world," he said.

He suggested that many of the audience would find it difficult, if

they were challenged to produce on the spot a moral justification for profit, but added: "Unless a person can answer this, that person is unfit to teach business links in schools. 'You can't have freedom without free enterprise, and that is the case that has to be put in the schools.'"

Sir Keith said that he believed that businessmen would have to go into the schools and put this message across rather than leave it to teachers. And in reply to a questioner who suggested that the curriculum might be modified so that it developed an awareness of the role of business enterprise and profit, he dwelt nostalgically on a past when children acquired an unquestioning belief in the virtues of capitalism by reading "good books".

But, to try to make teachers do

what respectable writers once did as a matter of course might now be dangerous, Sir Keith feared. "One can't assume teachers will welcome the chance if we give it to them, and I believe that many would, indeed, go in the wrong direction and argue against profits."

Earlier, Sir Keith had championed the education system with moderate enthusiasm. Even if it had any bias against business that could not have done anything like as much harm as the failures of politicians, unions, and management. And by halting the expansion of the universities, local government, and the civil service, this Government had removed some of the soft options to preparing for a business career.

From page 1

Why scientists pick industry

by Diane Spencer

Low pay, poor job satisfaction and the unpopularity of the Post Graduate Certificate of Education prevent more science students going into teaching.

These were the findings of a survey of all heads of university physics and chemistry departments carried out by Professor R. J. Blyn-Stoyle of the University of Sussex, and published in a pamphlet this week.

Despite the Clegg awards to teachers, science graduates felt the financial rewards were still lower than in industry, especially so for older people.

Students also thought that the status of the science teaching profession had dropped over the years and job satisfaction had been reduced by such factors as lack of funds for equipment, books, laboratory assistants and opportunities for in-service training.

They were worried, too, about teaching in large classes with mixed ability groups and unmotivated children.

Professor Blyn-Stoyle said that rightly or wrongly, post graduate certificate courses of education were not well regarded in some departments. One department in a large civil university replied: "The PGCE is not popular. Students are well aware that in the physical sciences it is essential to have it in order to teach. The PGCE is seen by many as the waste of a year. Lectures about the philosophy of education and similar topics are regarded as useless."

Professor Blyn-Stoyle urged those responsible for PGCE courses to educate their colleagues in the science departments about the nature, and relevant importance of the course.

However, heads of science departments were concerned about the shortage of physics and chemistry teachers in schools, he said.

Science Teachers for Tomorrow's Schools, edited by Arthur Leeming and Richard Ingle, Bedford Way Papers no 7, University of London Institute of Education, 22.25.

1983 deadline set for promotion of instructors

by Bert Lodge

Thousands of teachers, mostly women, who are classed and paid as "instructors" because they do not hold recognized teacher qualifications, will be prevented from advancing to qualified teacher status, from next year.

In an effort to make teaching an all-graduate profession, DES regulations insist that 1983 will be the last entry for the various in-service, part-time courses which enable instructors to top up their technical qualifications with a teaching certificate.

A recent survey in one county education authority showed that more than one in three of commercial studies teachers in schools were not professionally qualified.

Mainly women in their 40s, they were classed as instructors and on yearly contracts at low rates of pay compared with the Burnham rate for qualified teachers. Current starting salary for an instructor is £4,005 a year.

Mrs Pat Emery, senior lecturer in business studies at Chelmer Institute of Higher Education, Chelmsford, who conducted the survey covering 81 schools and eight further education colleges, points out in the current issues of *The Vocational Aspect of Education* that instructors cannot improve their status by embarking upon an in-service BEd either, because this is only open to holders of a certificate of education.

She adds: "Why not encourage instructors to obtain the necessary certificate of education then? The

answer is they cannot do so after 1983 because the only in-service certificates of education remaining at that time will be for further education lecturers.

Mrs Emery thinks the likelihood of school instructors getting paid secondment or even a place on a course not designed for them is extremely remote.

"These instructors are caught in a vicious circle. How many of them are there in this country? The problem is not confined to commercial studies; other disciplines such as craft, design and technology are similarly affected."

● The problem of recruiting sufficient teachers of technical subjects while making entry to teaching a graduate by 1984 are currently being examined by the Government's Advisory Committee on the Supply and Education of Teachers.

It has been suggested to the committee in papers prepared by the DES that the one-year certificate courses should be extended beyond the original deadline of 1983 final entry.

The committee is expected to make a recommendation when it meets in full session on March 29.

The Vocational Aspect of Education, vol xxviii, no 86. Obtainable from Garnett College of Education (Technical), Downshire House, Roehampton Lane, London, SW15. £2.50.

Redecoration fear on lead levels

by Virginia Makins

Redecorating old schools may cause exceptionally high lead levels in school playgrounds.

A follow-up study of Telferscot primary school in Balham, London, which in 1979 was found to have high levels of lead dust following redecoration, has shown that lead levels are now back within the GLC safety guidelines.

A report on the problem of lead by officers of the Inner London Education Authority now proposes a new code of practice for any redecoration which involves old lead-based paint. It recommends that the GLC scientific adviser should be asked to make further lead level surveys, and that the IEA should continue to support studies on the relation between lead levels and children's intelligence and behaviour.

It also proposes that the IEA and the GLC should make further representations to the Government urging lead-free petrol, that the Association of Metropolitan Authorities should be asked to approach central government for extra funds for the research and maintenance work made necessary by lead problems, and that a statement should go to parents explaining the available evidence and outlining IEA policies.

The IEA has already adopted new guidelines for adult car maintenance classes on school premises, cutting down the dismantling of exhaust systems and excessive running of engines.

The report's proposals will now be discussed by IEA committees, starting with the development sub-committee this week.



Wheeler dealers: Some of the young contestants in the finals of a Wiltshire and Technology Regional Organization problem-solving competition. Finalists had to construct a vehicle to certain specifications which had to be pre-arranged course.

Sack threat to staff in personal post row

by Richard Garner

Teachers and lecturers in Stockport have been warned they could lose their jobs if they are caught posting personal letters at the council's expense.

The move follows the discovery by council staff that a lecturer at the Stockport College of Technology was using the college postal system for his own private business mail.

The lecturer, who has not been named, was suspended without pay for a month after a committee of inquiry had rejected an earlier demand that he should be dismissed.

Mr Neil Fitton, director of education in Stockport, writing in *Education Newsletter*, a weekly circular which goes to all schools, said: "Let it be thought that posting a few letters at the council's expense is not

seen as a serious offence. I wish to remind all employees that still constitutes theft."

"Stealing local authority property or other property, while on duty, is subject to disciplinary action and it will invariably be my practice to recommend dismissal of the employee concerned."

Mr John McCarron, chairman of the board of governors at the college, added that he felt the case should have been dismissed as one of the council's hourly-paid staff would have been doing the same thing. "At times, justice must be seen to be administered equally," he added.

However, local members of the National Union of Teachers, the director of education had been strongly with his comments.



In the wake of protest

Black-clad students carried a coffin and staged a silent protest against education cuts when Sir Keith Joseph, the Education Secretary, opened a new management education centre at Nene College, Northampton, last week.

Sir Keith told students that education spending had to balance against available funds. "We told him we didn't think the balance had been achieved," Steven Tucker, aged 20, a combined studies student, said.

Universities and colleges should seek independent funds from business, charities and individuals, Sir Keith said at the opening ceremony for the centre that was built and equipped by a £1.7m grant from private industry.

Polytechnics and universities were not as independent as he would like. "It just isn't healthy for universities to be so dependent on taxpayers, and therefore on the decisions of politicians."

After the opening ceremony he said he had no specific ideas about where endowments could come from, but "there is plenty of local patriotism around, plenty of local money".

Fewer pupils staying on from poorer families, report shows

by Biddy Passmore

Only a quarter of children aged 16 and 17 in families where the head of household earns less than £2,000 a year are in full-time education, compared with nearly half in families where the head earns between £6,000 and £8,000, an education minister has disclosed.

The figures have been worked out by the Department of Education officials from data in the 1980 General Household Survey. They were given in a reply to Mr Derek Foster, Labour MP for Bishop Auckland, by Mr William Shelton, minister for the 16 to 19 age group.

Participation rates are higher than staying-on rates because of the inclusion of 16-year-olds who were not eligible to leave school. (The national level of staying-on rate for 16 and 17-year-olds was

36 per cent in 1980-81). The statistics show that participation in education rises sharply from 25.4 per cent in families where the head of household earns less than £2,000 to 31.2 per cent between £2,000 and £4,000; 43.9 per cent between £4,000 and £6,000; 46.6 per cent between £6,000 and £8,000; 62.7 per cent between £8,000 and £10,000; and 68.7 per cent where the head earns more than £10,000.

In his letter, Mr Shelton warns against reading too much into the figures because the samples are small and other factors such as ability, socio-economic status and parental education also influence staying on.

A statistical bulletin published by the DES in 1979, which Mr Shelton

enclosed with his letter, showed that two main factors affected the proportion of 16 to 19-year-olds taking GCE or CSE courses in schools or further education: the ratio of non-manual workers to all household heads in the area and population density.

About 65 per cent of the variation between local education authorities could be explained by a simple linear relationship with the socio-economic factor, it said. This rose to 70 per cent if the number of 16 to 18-year-olds per hectare was also taken into account.

In 1977-78, participation ranged from 19.6 per cent in the Northern region up to 27.4 per cent in the South East and 27.6 per cent in Wales.

ILEA's big insurance saving means cash for new priorities

by Sarah Bayliss

The Inner London Education Authority will save £165,000 on insurance premiums in the next 12 months and plans to spend the saving on new priorities, including unemployed young people's provision and integrating the handicapped.

The authority's present three-year policy expires at the end of the month and a new set of lower premiums has been negotiated with a consortium of companies.

Over the cost of insurance has been cut by 20 per cent; the cost in the 1981-82 financial year will be £55,812 compared with £82,573 for 1980-81.

The ILEA has more than 1,000 employees and their total insured value is high - around £2,100m. Mr Barry Stoddart, chairman of the finance sub-committee, said: "I am

delighted by this review." A new framework for annual reports to governors has been worked out for primary schools in inner London.

The annual reports which heads give to their governing bodies are to be based on the schools' own self assessments which are already done in conjunction with inspectors.

The new format approved by the Inner London Education Authority's schools sub-committee gives six headings: the children, their parents and the community; teaching organization; school staff; responsibility structure; staff development; ancillary staff; the curriculum; organization and management; the buildings; and the future.

The primary reports start next September.

University cuts 'vital'

Savings in universities and polytechnics are vital if Britain is to spend more on training young people who might otherwise face unemployment, Mr William Waldegrave, minister for higher education, said at the weekend.

Speaking to the Conservatives' Western Area Education Committee in Exeter, Mr Waldegrave said that savings in higher education would amount to about £150m to £200m over the next two years and £200m a year after that. But the Government would be spending £1 billion a year on the Youth Training Scheme from September 1983 and was pledged to maintain spending on law and order, pensions, defence and the health service.

"It is fair to ask the universities and polytechnics, which have expanded for 30 years, to contribute something to those programmes," he said.

Mr Waldegrave said that the cuts would mean a "limited short-term drop" in the proportion of the age group going into higher education. But he stressed that the number of 18-year-olds would fall by a third and the number of school and college leavers qualified for higher education by 27 per cent between 1983 and 1995.

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Announcing THE HOMEWARES & HARDWARE YOUNG INVENTOR AWARDS

Commencing in 1982 new annual awards will be made to the best young inventor of original items of household equipment—appliances or utensils powered if appropriate by hand or electricity. Schools and their students throughout Britain and Northern Ireland are invited to submit items capable of being demonstrated in use and developed to a good standard of finish and consumer acceptability.

The awards will take the form of cash prizes of £100, £50 and £25 for the best entries and trophies plus replicas for retention for the schools or colleges. Prizes will be presented and entries displayed at 'The Hardware Trades Fair' at Olympia, London on 5-8 September 1982.

The three winners, each accompanied by one or two parents or guardians will be invited to attend the exhibition and will be provided with travel and overnight hotel accommodation in London on Sunday, 5 September. At the Fair leading hardware manufacturers will have the opportunity to consider the entries for possible commercial production.

The competition will be organized by STUDIES IN DESIGN EDUCATION, CRAFT AND TECHNOLOGY, the international journal for Design, Craft and Technology under the chairmanship of Professor John Eggleston.

Village parents step up fight over bus charges

by Diane Spencer

Parents in the Suffolk village of Capel St Mary are rebelling against a £14-a-term school bus charge as they work on new tactics in their seven-month-old fight against the education authority. Last week their children staged a sleep-in at their school, East Bergholt High School.

This week their leader, Mr Derek Hurley, said they had decided to adopt "more or less guerrilla tactics" to surprise the authority. Parents also intended to lobby their MP, Mr Keith Stainton, and to invite councillors to walk the three miles to the school from the village.

Meanwhile at White Notley, north-west Essex, parents facing a £20-a-term charge want the distance from the village to Notley High School re-measured. Parents found a discrepancy of 160 yards between their calculations and the council's.

And Mr Stanley Wilson, a leading figure in Saffron Walden politics for 50 years and a friend and opponent of the late Lord Butler, has written to the Prime Minister asking her to drop rural bus charges as a memorial to the architect of the 1944 Education Act.

Magdalene intake switch breaks new ground

Magdalene has become the first college at Cambridge University to offer to take some promising candidates on the basis of an interview and the minimum requirement of two A level passes.

It thus joins 10 colleges at Oxford, which have now decided to admit a proportion of their students on these so-called "matriculation" offers, pioneered by Hertford College in the 1960s.

The scheme is aimed mainly at applicants from comprehensive schools, which may not have the facilities to prepare pupils for the special entrance examination. To begin with, Magdalene College will fill only one or two places in each subject on this basis - and none in English, where all candidates will continue to be admitted on the basis of the entrance exam.

Candidates wishing to be considered for a matriculation offer for entry to Magdalene next autumn should apply as early as possible and in any case not later than mid-August. Women need not apply: the college is still for men only.

Something will have to be done about the present legal position which prevents local authorities from charging for individual music tuition in schools. Dr Rhodes Boyson, Under-Secretary of State for Education and Science, said during a recent late-night debate in the Commons.

The High Court decision last year that Hereford and Worcester County Council was not entitled to charge

L.e.a. cuts pay of 17

A local education authority has agreed to redeployment from the schools because of falling rolls.

The decision has been taken by "extreme reluctance" by Croydon five-controlled Trafford, before council after receiving legal advice from local authority employers.

The 17 teachers were all receiving social priority area payments - a signed to two teachers at schools in deprived areas - and have been moved to schools which do not receive the allowance.

The advice - which is to suspend the payments - which are £201 a year plus £276 after five years' service - comes from the management side of the Burnham committee, which negotiates teachers' pay, in the wake of a court ruling in Newcastle which stated such payments were not permissible.

The Newcastle case was brought by a Social Democrat councillor, Mr Jack Richardson, for Pearl House Ltd, claiming that the city council had illegally fixed the rate. One reason cited was the social priority area payment for teachers in inner-city schools.

The management panel immediately sent out a circular to all local education authorities advising them of the judgment and allowed them to negotiate with teachers' unions.

If the Burnham agreement could be reformed to allow the payments to continue in cases of transfer of responsibility. However, it stated that these did not include redeployment.

Compensation to dinner ladies

Labour-controlled Walsall Council has been ordered to pay a total of £10,596 compensation to four school meals ladies, who were sacked because they refused to join a trade union.

More than half of the sum has been awarded by an industrial tribunal because the council refused to comply with a request to reinstate them, after a ruling that they had been unfairly dismissed.

Campus books spending falls 40%

University spending on their libraries has declined by more than 40 per cent over the past six years, according to a survey of university accounts carried out by the University College and Polytechnic Association.

Recently released government figures on book spending in 31 polytechnics had shown that spending in all but two had also fallen in real terms, Mr John Davies, council director, said in London.

Lobbyists rally against Reagan's proposed cuts in remedial programmes

WASHINGTON: Members of 30 teachers' unions and other education interest groups flocked to Capitol Hill last week for the opening round of what is likely to be a protracted and labyrinthine struggle over President Reagan's 1983 budget proposals.

Hundreds of delegates met senators and congressmen to protest against plans to make cuts of nearly 40 per cent in the Federal Government's programmes for educationally disadvantaged children.

The programme, known here as Title I, would be reduced from a 1981 level of \$3,100m (£1,699m) to \$1,900m by 1983 if Congress approves President Reagan's budget.

Some 90 per cent of America's school districts have participated in Title I programmes since they were set up 16 years ago to pump extra educational resources into poor neighbourhoods and to educationally disadvantaged pupils.

At present more than five million children receive basic mathematics and reading tuition under Title I funding and some 200,000 teachers and support staff are employed on the programmes.

Title I funds are also used for summer school courses, to help children of migrant workers and to provide extra tuition in state-run institutions for the neglected, delinquent or handicapped.

At their meetings with senators last week, the education lobbyists claimed that millions of pupils would cease to benefit from the programmes if the President's cuts were implemented in full. The American Federation of Teachers said 1.7 million children would leave special reading courses, and one million would cease to receive mathematics

courses. The Education Department's defence of the proposed cuts has been made difficult by publication of one of its own studies claiming that the programme has been an outstanding success.

It said that as a result of the programme a 15-year decline in educational achievement was beginning to reverse, with traditionally low-achieving pupils showing the most gains. Mr Terrell Bell, the Education Secretary, told Congress last spring: "I know, and I can testify, that our Title I programmes are successful."

The administration is also facing strong opposition to its plans to change the way the national school lunch programme is administered. The programme, which serves 23 million lunches a day, was cut by \$1,000m last year.

No additional cuts are planned in the 1983 budget but the American School Service Association told Congress last week that technical changes in the programme would result in another \$250m shortfall.

According to the association, 1,100 schools had already left the voluntary school lunch programme since the federal cuts were imposed last year and this, combined with a price increase, had resulted in three million children ceasing to receive a school lunch.

The association also outlined its objection to the Administration's proposal to transfer the United States child nutrition programmes to individual states as part of the President's "new federalism".

"A child's need for a nutritionally adequate diet does not vary from state to state," said Mrs Gertrude Applebaum, the association's president.



Charles Haughey (left) ... extraordinary political deal and Martin O'Donoghue ... entry age pledge

Republic of Ireland/John Walsh

Inner city gets priority status

DUBLIN: Dublin's north inner city is to be declared an Educational Priority Area following an extraordinary political deal between the Republic's premier, Mr Charles Haughey and an independent teacher member of the new Dail.

Successful education ministers have bent the rules on facilities and teacher supply for disadvantaged areas. But they have never formally declared such areas to be EPA's for fear of labelling them and their inhabitants as failures.

Now all that, and much else besides, has changed as a direct result of the recent elections in the Republic. No party won an overall majority and the balance of power was left in the hands of a few socialists.

Mr Tony Gregory, a representative for the north inner city area demanded, and got, substantial pledges from the Fianna Fail leader. They included a multi-million-pound housing and jobs injection for the north inner city, taxes on derelict

sites, an inner city development authority with Mr Gregory nominating the chairman, improved welfare and educational provisions.

The educational aspects include a new 300-400 pupil to community school, free school books, lower pupil/teacher ratios, more remedial and other back-up services, additional woodwork, metalwork, building construction, typing, and home economics facilities for the secondary schools and more pre-employment and adult courses.

Mr Gregory has also succeeded in getting a promise of a special family income education support scheme. This will be aimed at allowing children from poorer backgrounds to remain in full-time education up to and including university or technology college. The scheme will consist of a special annual supplement in addition to the existing higher education grants scheme.

The deal has provoked much comment and envy in the Republic. One

Dublin opposition MP is threatening legal action on the grounds that south inner city is being discriminated against. The estimated cost of the total package was as low as IR£57m (£46.5m) as high as IR£120m (£96m) making the most expensive vote in Irish history. The irony is that it was needed as the three members of socialist Sinn Féin, the Workers' Party, agreed at the end of the day to support Mr Haughey for Minister.

● The new Education Minister, Martin O'Donoghue, is a former professor of economics at Trinity College, Dublin. He has pledged to reverse immediately the coalition government's controversial decision to raise the school entry age from a minimum of 4½ years. But, as he has not said what he will do about the related decision to move enrolment to two dates in the year, which also affects the entry of infant pupils.

Sweden/Leon Boucher

Costs delay training reform

STOCKHOLM: The Swedish system of teacher training is unlikely to be reformed this year even though an overhaul has long been expected.

A committee, set up in 1974, made its suggestions in 1978. Responses were submitted by the end of 1979, and parliamentary proposals have been expected every year, but it is now unlikely that any decision will be made until after the general election later this year, or any Bill presented before 1983. The reason for the delay is probably the cost of any reform.

Those supporting the committee's ideas of one category of teacher for the basic 7 to 16 school, with a specialization towards either younger or older pupils, are both saddened and relieved.

While irritated by the continued delay, they are relieved because such ideas had been leaked about a possible proposal this year merely brought together the two categories of teacher for the 7 to 16 and 10 to 13, leaving the 13 to 16 firmly linked with the post-compulsory subject teacher system.

As the leading article in *Lärartidningen*, the journal of the class teachers' association put it: "The 13 to 16 stage must at last break the link with the lower secondary grammar school of the 1950s and the itself to the earlier stages. ... Until this happens the reform of the basic school is still incomplete."

West Germany/Susan Kirkman

Neo-nazis demand segregation for immigrants

BONN: West Germany right-wingers have demanded the segregation of immigrant children in North Rhine-Westphalian schools.

The "citizens' initiative to stop foreigners", backed by the neo-Nazi National Democrat Party (NPD), has petitioned for a referendum to de-

Finland/Donald Fields

Handicapped and deprived to benefit from Bill's changes

HELSINKI: Legislation governing general school education in Finland is being reformed. A comprehensive 90-page Bill is to be submitted to Parliament this spring.

Outlining the changes, Mr Kalevi Kivistö, Minister of Education in the four-party coalition government, said the main principle being modified was that granting some children exemption from compulsory education. This meant that local authorities would be empowered to arrange schooling for the handicapped, who have fallen through the net in some areas despite laws granting them equal rights with the rest of the population.

There is to be less streaming and less specialization in the senior forms of comprehensive schools, in order to ensure a more even spread of opportunities for each pupil, including the relatively deprived, to move on to further education.

Inspired by a Norwegian model, a more flexible system of timetabling will devolve decision-making power to the schools themselves and allow teachers more say in shaping their own working lives. The arrangement will also facilitate teaching for smaller classes - especially of foreign languages, a major part of the curriculum in this linguistically isolated country.

Adjustments of the syllabus will require a number of extra teachers. Given existing regulations, the overhaul should result in a Mkk190m (£23m) increase in outlays on comprehensive and senior secondary

schools between 1982 and 1985. However, a decline in the number of children of school age will mean this figure to Mkk42m (£5m), which 70 per cent will be borne by central government.

As forecast in *The TES* last year, comprehensive school changes deemed with hindsight an unjustified experiment in pupil-teacher participation - will be replaced by a school board of five members: One by local authorities, one teacher, and one from the other school staff. At the senior end of the school, two pupil representatives will be allowed to vote in their views but not to vote, and there will be a separate forum open to all pupils.

If approved the new Bill will regularize the tenth form following compulsory nine in the common basic school. Such an extra year is being arranged on experimental lines, partly to prevent school-leavers being ensnared by sudden unemployment. To help dovetail vocational training with school education, a separate Act is proposed for evening classes.

Asked how the Finnish school system would differ from those in other countries, Mr Kivistö told *The TES*: "We're part of the European framework, but we do account for the role of local authorities and of the middle forms in the comprehensive school. From now on, the objectives will be to ensure that all age groups are guaranteed some form of vocational or higher education."

Australia/Bill Purvis

Government advised to give private schools a bigger cash boost

SYDNEY: The Australian Schools Commission has recommended that next year the Federal Government give much more money to private schools than it does to government schools.

The commission, an advisory body, says the Government should give private schools \$A509m (£287m), an increase of nearly 7 per cent.

At the same time it recommends an increase of only 2.2 per cent for grants to government schools totalling \$A469m.

Under the Australian Constitution the states are responsible for primary and secondary education - but Federal funds provide some 20 per cent of all government funds to schools.

The report is the first by the commission under its new chairman, Dr Peter Tannock, whose appointment six months ago was criticized by supporters of the government school system.

Now the commission's recommendations have been attacked as favouring the elitist element and hardening the divisive tendency of expensive private schools.

Mr John Dawkins, the opposition Labour Party spokesman on education, said the report was a complete departure from a funding policy based on education needs.

Mr Dawkins said the Government was more to blame than the commission and that if accepted, the 1983 grants would mean that state and federal funds to government schools during the past five years had fallen 50 per cent in real terms.

Mr Gerry Tickell, the president of the Australian Teachers' Federation, described the recommendations as "appalling and staggering".

He said the report was a slap in the face for the teachers' federation which voted at its national conference in January to oppose any government funding to private schools. "This just shows the Government is ideologically committed to promoting the private schools system and drawing pupils out of the government school system," he said.

"It's tragic that the commission, established to ensure that education funds were allocated equitably, should become an accessory to a policy of robbing the poor to subsidize the rich."

Enrolments at private schools continue to creep upwards, at the expense of numbers in government schools: the most recent figures indicate that between 22-23 per cent of all pupils now go to private schools - up from less than 20 per cent seven years ago. The commission gave this rising enrolment as one reason for the recommended rise in grants to private schools.

Other reasons were rising costs generally and the Federal Government's election pledge to increase funds for the poorer private schools - usually Roman Catholic parish schools. This category is now guaranteed a grant equal to 40 per cent of the cost of educating a child in the state system.

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Salikhard, Siberia: teachers are reluctant to work in the wild

Two serious headaches are facing the Russian school system. One is the growing gulf between city and rural schools. The other, even more disturbing, is that the vital supply of a large number of teachers is not keeping up with the demand.

A state of articles on these subjects has appeared recently in publications ranging from *Pravda*, the Communist Party's national daily, to the professional *Teachers' Gazette*.

The difficulties facing rural schools stand out most clearly in the vast areas of Siberia and the Soviet Far East which are undergoing intense economic development. By 1985 the number of school children there is expected to have increased by about 30,000 and most of them will be concentrated in newly-built settlements and small townships.

While the problem of the quantity of teachers trained is being solved, the problem of quality is being solved, and is reluctant to work in the wild for many reasons.

Accommodation is hard to find. For example, only a third of the 900 young teachers who graduate every year in the Leningrad region are offered jobs with accommodation provided - the rest must find private accommodation and pay rent considerably higher than that controlled by the state.

To make matters worse, rural teachers are paid less than those who work in the towns. Their schools, which are small, have few audio-visual and other teaching aids, and inadequate staffs.

Social activities in the country are minimal: there are few opportunities to mix and mingle with little privacy, everything that everyone else is doing. And such things as the standard of service, generally low throughout the Soviet Union, is at its worst in the rural areas.

are either "dissatisfied" or "very dissatisfied" with their jobs. The commonest reasons given were: unsatisfactory professional relations (21 per cent); poor organization (14 per cent); and lack of opportunity to work well (12 per cent).

New teachers are bound to work at their first post for three years, which is understood to be a form of repayment for their own free training. But few agree to stay longer. More adequate incentives would have to be offered to attract teachers to the more out-of-the-way places.

A much more complicated problem is that many of the young teachers should never have started on a teaching career, as shown by the results of another poll, this time conducted at one of the country's most prestigious teachers' training colleges, the Herzen Pedagogical Institute in Leningrad.

The first soundings were taken four years ago, when first-year students said they had chosen teaching as a profession because they loved children and the job. Just before graduation, only one in three of these students felt the same while many admitted that they would take any job so long as it was not in school or with children. Their real reason for taking the course had been to get a diploma.

Pravda blamed this complete change of attitude on the rigid, academic courses prescribed and the fact that there was only an hour's theory in all the four years devoted to extra-curricular activities.

Many other writers, however, believe the student selection system to be at fault. Each summer large numbers of school leavers fail to enter the university arts faculties and turn

Travel

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Talkback

Biology a misnomer?

David Applin

Do other teachers of Biology share my dislike of some of the proposals for the new syllabuses at 16+?

I am concerned that the proposals I have received are heavily weighted in favour of the biology of flowering plants and mammals, and that an opportunity has not been taken to break this mould inherited from generations of previous syllabuses. Like many of the old syllabuses, the new syllabus seems to be intended as a vehicle for the training of prospective medical students. Such bias, has unfortunate consequences:

1 - It gives pupils a distorted view of the living world - for example, it is surely disproportionate to spend a majority of time on vertebrates/mammals when these animals constitute but 5 per cent of the animal kingdom.

2 - It deprives the biological sciences at university/polytechnic of some of the "better" students, who would perhaps choose some aspect of the biological sciences instead of medicine if they were presented with a more balanced view of biology.

3 - It encourages and reinforces an anthropocentric view of the living world.

4 - authors write books in response to syllabuses; the examining boards must be aware of suitable books, therefore both sides endorse each other's point of view.

5 - the syllabus does not reflect the renewed interest in the relationships between living things. It ignores developments such as Attenborough's and Leakey's programmes. Surely there should be impetus for a new look at our approach to biology; phylogeny provides that thread upon which can be hung the 'stories' of structure and function.

Clearly the title of "biology" is something of a misnomer. May I suggest the following as a basis for constructing a syllabus.

At the molecular and cellular levels: biology (the study of organisms) is a unified subject and emphasizes the principles which apply



equally to all living things, whether bacterium, plant or animal including man himself. However at the level of the organism the unity of the biological world is less apparent. Differences emerge as a result of the strategies adopted by plants and animals in order to solve the problems of their everyday existence.

The main difference in strategy is that plants are able to manufacture their own food whereas animals cannot. This dichotomy appeared soon after the origins of life itself and has led to a host of differences between plants and animals. In fact the only major factors held in common by plants and animals are that they face the same problems of survival.

The structures and mechanisms by which plants and animals solve this problem are different; and 'are' the product of separate evolutionary histories. Thus the difference between plants and animals are clearly marked and form the basis of the separate disciplines of Botany and Zoology.

Organisms: assemble into populations and the unity of processes at

this level is a result more of the interdependence of populations and of the influence of common sets of environmental factors, rather than principles and mechanisms which apply equally to all organisms. As important is the fact that populations survive for a long time and are the units by which new types of organisms evolve.

In the light of these comments, I believe that to approach biology through mammalian/flowering plant biology, ecology, social biology, or any other route that does not take into account the natural lineages of organisms, structures and functions is to contrive a syllabus which distorts the subject and deprives pupils of a means of understanding the living world.

At the moment the opportunity of establishing biology within a framework which is truly a reflection of the living world seems to be slipping away. Perhaps vigorous representations to the examination boards will provide a remedy.

David Applin is head of biology, Chigwell School, Essex.

Unrealistic view

Mary Brown

"How important for a happy life do you consider having a job to be?" In answer to this question, in a survey on their ideas and expectations of the future, over 88 per cent of 427 fifth and upper sixth years in six mixed comprehensive schools thought it important or very important.

Asked next "Generally speaking, which do you think is best: for people to work as hard as possible for as much money as they can get, or for people to work only as hard as they need in order to lead a pleasant life?" 78.5 per cent chose a pleasant life.

The questionnaire listed ten factors to consider in the choice of a job or career, and asked how important each was and to place the top three in order of importance. Interesting work came first: over 95 per cent thought it important or very important and 73 per cent included it as one of the first three. High pay came a poor third after job security.

But interesting work and job security are not things that these young people look forward to with any confidence. The majority thought high levels of unemployment likely in the future, and saw work becoming more boring and impersonal. Yet none of the fifth years and only one sixth year expected to be unemployed on leaving school. Only 32 fifth and seven sixth years ticked "don't know" in the section on plans on leaving school.

It may be that more did not know, but felt that this was a question they ought to be able to answer. They are at the stage of their lives of making career choices, deciding whether to leave education or to go on to a sixth form course or higher education, and society expects them to be able to answer the question: "what are you going to be?" This expectation is backed up by school and local authority careers education.

To have a career has always been the luxury of a privileged minority. That minority may be even smaller

in the future, but a job still seems to be considered one of the most important aims of education, although unemployment may be the only possibility for a growing proportion.

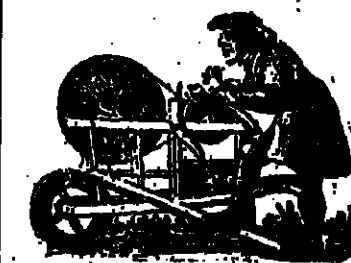
The jobs or careers the young people said they wanted were classed into industrial and non-industrial. The non-industrial careers included teaching, nursing and other social welfare and creative occupations. Of three individuals, 0.9 per cent, of the leaving school at 16 expected to have a job, and 36 per cent of those going to 18, and 56 per cent of those going to the higher education, opted for non-industrial careers.

Some claim that young people are prejudiced against work in industry by further and higher education. Statistics suggest, rather, that young people who do not want to work in industry opt for higher education in order to qualify for the career of their choice. There appear to be no non-industrial careers open to those who leave at 16.

We have not begun to think about an alternative to the protestant ethic. There has been platitudinous talk for decades about the need to educate for leisure, but we do not see schools have a head of careers. The message is not lost on these young people: a job is important for a happy life.

The respondents were not a representative sample and no conclusions can be drawn from their replies. The results pose some interesting questions. What can we do to help young people leaving our schools other educational institutions? Society no longer needs them to enter its shrinking industries we must consider the question, what is life like? We do not seem to have any convincing answers for the young unemployed.

Mary Brown was recently a part-time research assistant at the University of Bath.



Axe grinder

Rough cuts

A kid in the third year once remarked to me how odd it was that what he called going to school, I referred to as going to work. Does this distinction point the way to a deeper understanding of what schooling now represents - for the kids, I mean, not so much for you and me?

For us, school really does mean work. In the accepted sense. Our daily mental and manual grind at the chalkface provides us with a living. But we have room for manoeuvre. Some tasks we have to do, others we can dispose to do; it is in the balance between these two categories that your true professional / dedicated teacher / ambitious upstart / staffroom layabout is weighed.

But for the kids school is something they all have to undergo. Most accept school fairly willingly; a select few take to it like ducks to water and sail through with flying colours (etc). Others take careful steps to avoid the disagreeable experience of get-

ting wet altogether: they resist all efforts to engage their interest and attention, however well intentioned. Consider this, from Culture and Anarchy Comp:

Clive: Ya know, miss, I really like poetry.

Teacher (brightly, for such comments are precious jewels from the fourth year): Oh, yes, why's that?

Clive: Well, miss... er... it's relaxing, like, after some of 'em other lessons. It's a nice rest, innit? ... presumably from a relentless round of folders, topics, note-taking, dictation, worksheets, bandas and other pre-digested 'convenience' aids, that so often seem to constitute teaching rather than support it. Have we allowed the control and organization of classroom experience to pass into the hands of the Media Resources Department?

Another teacher, hearing scratching noises from a cupboard, opened it to find a pupil sitting inside. He'd been there, he explained, for a whole double period... anything was better than French.

Even fifth year exam pupils will go to great lengths to keep the teacher talking rather than get their folders written up. Eleven years of schooling has taught them subtle means of controlling the pace of 'work', though Michelle, once shrewdly observed to her friends: "We've got to write all we're talking about, you know". In other words, beware, all this talk is a trap!

Is this then the final educational resting-place of the infant teacher's cherished, stock-in-trade "News" time and "Show and Tell"? (No, Malcolm, that's not what we want to see.

Put it away again... Sharon, don't tell us again what you did at a Nan's last night. We didn't go, we heard, did we, because Malcolm was such a silly boy? At this end of the school spectrum talk = work, whereas for Michelle and company, talk = avoiding work.

The skilled teacher can strike a bargain about an acceptable amount of work and 'having a laugh with your mates'. Much recent research dwells on this point, and suggests that significant parallels with the world of adult work.

Nowhere is this more apparent than at schools like Culture and Anarchy: "arf a page do for you, sir?" "On no, Terry, you'll need a couple of sides for Capital Punishment!" "Tell you what, sir, I'll do you one more paragraph. How's that?" "I'll have to be a good one, then."

Different parts of the educational system yield different conceptions about the boundaries of school 'work', valid learning and 'work', the hidden (and sometimes tangled) intentions and expectations of school, and indeed how these products are ranked - whether they be a Victoria sponge, a neatly filed worksheet, a wooden tie-rod, 220 words on wheat in Canada, or a page of sums all neatly ticked.

At suburban Greenfields, school the visitor to the staff room is struck by a large sign on the back of the door. What it says, have you guessed? If only life in schools was so simple, and the teacher's role so straightforwardly encompassed. A better question might be: "What have they learnt today?"

I think I'll drop a note to the head

Many secondary schools have been reviewing the curriculum, trying to guess what is needed for the eighties, and to take into account opinions and documents which offer advice.

Some advice is clearly impracticable: the prominent industrialist who said that all pupils should study physics up to O level clearly had no knowledge of the average ability in a comprehensive school. The DES document of March 1981, *The School Curriculum*, suggests that all pupils should "continue with some work in the three main sciences in the fourth and fifth years", but admits a shortage of resources and a paucity of well-qualified teachers.

There was a time when we were told that all pupils should study a language up to age 16, but *The School Curriculum* now says: "... at least two, or, if possible, three years of language teaching should be provided as a minimum. Wherever possible, pupils should be encouraged to keep up a modern language until the end of the fifth year of secondary education." Not only are experts tentative on this point, but fashionable theories come and go too frequently for a school to rely on them when forming its curriculum.

For a decade or more, schools have been assured of the importance of educating scientists to lead the country's technological recovery. Now, suddenly, the University Grants Committee has severely cut back provision for these scientists in several successful universities.

Long-term curriculum planning has become, if not impossible, at least risky, since the conditions during the planning may well not obtain when the plan comes to fruition. Preparing children for places which do not exist is frustrating for both staff and pupils.

It seems clear, then, that schools must look at their own problems and needs and work out their own best practice. This is what we set out to do. Our school is an 11 to 18, split-site comprehensive of about 1,400 pupils. The focal point of our curriculum as it stood was a fourth and fifth year core plus option system. This means that we expected all children (except for those in the remedial general course) to spend their last two years of compulsory education working on seven or eight subjects which were to take to examination level.

Our O level and CSE results suggested that very few pupils are capable of meaningful success in so many subjects, and we suspected that success and enjoyment would be more if it were possible to take fewer subjects. We started asking why we insisted on so many examination subjects when the maximum needed for a job or for entry into further education was five.

Another problem with an option system is that all pupils must choose one subject from each option, even if they hate or are very poor at all the subjects in one block. Such children have poor motivation, are likely to become discipline problems, and are highly unlikely to achieve either pleasure or success from a subject which they had to take just to fill up their timetables.

We were not happy, either, with the way that options were chosen. Parents, wishing to select a course for their child, would approach subject teachers at a parents' evening, and be told the child's likely level of success. But each subject teacher was acting independently; no one was saying: "This is, in our opinion, the best combination of subjects for this pupil".

Parents might well conclude, from discussions with eight separate subject teachers, that their child could cope with eight subjects at O or CSE level; it was probable that the child would achieve better if he or she concentrated on only five or six of the eight.

We should, we decided, start with pupils: what are they good at? What are their aspirations and ambitions? What achievements are they likely to be able to gain? After discussion with parents, we should be able to suggest a course with the optimum number of subjects at the best level.

Another set of considerations led us towards our eventual answer. Many of our pupils have nowhere at home suitable for doing homework. The doing of homework at all. Other pupils are heavily committed in their out-of-school time to activities like sports, music, dancing - and these are often the children who are doing academic subjects which make great demands in terms of homework.

The habit of quiet reading or work is not inculcated in many homes; we may blame television, but to blame will not solve the problem.

And so, about three years ago, our head-

master announced that we should amend our curriculum, so that all children in the school spent 25 per cent of their school time (10 out of 40 periods) doing silent private study in the school hall. I have still not decided whether he was serious or merely assuming a bargaining position.

Many staff were appalled: "I haven't had an expensive training so that I can supervise private study." "Home is the place for homework." "Parents send their children to school to be taught."

Others accepted that some children might benefit, but questioned the ability of remedial groups to keep themselves usefully occupied in private study without constant guidance. The most able children were also, it was claimed, a special case; those whose parents wanted them to take eight or nine O levels and work at home should not be forced into private study.

But while we argued about how much time and for whom, we gradually accepted that private study was a good thing - if it could be made to work (apparently some head teachers assured our head that private study was not possible - children would chat, throw things, etc.). Private study would mean smaller classes; it would mean that we had in our classes only those children who wanted to take our subjects; we should be training pupils in study skills; it would make an excellent preparation for sixth-form study.

The principle, then, evolved: the guided choice curriculum. Children would choose the subjects they were likely to succeed in; when they were not in lessons they would do private study in silence, and have more time for their

chosen subjects. Guidance would be by parents, in consultation with teachers.

This accorded with our belief that parents are the natural educators of their own children, and established a child-centred curriculum. The Governors were prepared to try the system; parents were given the freedom to choose; County Hall did not oppose.

We began rather cautiously with the fourth form options. We kept a core of English and maths. (This was not necessary: it was highly unlikely that anyone would not wish to do these.) PE remained in the core because of strong arguing from the PE department, as did religious studies to satisfy the 1944 Education Act, and one lesson a week of careers.

Thereafter, parents chose only the subjects which their children, in their opinion, needed. Sixty pupils out of 235 chose a subject from each option; 146 filled all option groups except one, and so had 4/40 private study periods; and 29 had 8/40 private study periods.

We then turned our attention to the third years, who are organized in three ability bands (4; 4.2). We considered the idea of a third year option system, but the timetabling proved too difficult to make it viable. It was, therefore, decided to allow pupils to opt of subjects in which success was highly unlikely. This time we gave a completely free choice; no subject was compulsory.

No one opted out of English or maths, and very few, to our surprise, out of PE. Several wisely gave up one science in which they were struggling, and several dropped French. Our major embarrassment was in religious studies - in some classes about 40 per cent of parents

wished their children to opt out. In allowing parents to remove their children from this subject we were following the letter, but not, we decided, the spirit of the 1944 Act. So we vetoed the dropping of religious studies.

We advised pupils when we thought that they were unwisely dropping subjects which might be useful to them; we dissuaded people from giving up all the sciences. Deputy heads, the head, heads of years and I saw many parents. Some did not like the idea of private study; we politely explained to them that in that case their children need not opt out of any subject.

Many other parents were pleased that the choice was available, and grateful that their children could do some of their homework in school time. Forty-one third-year children out of 230 did not drop any subjects; 72 dropped one; 87 dropped two; 24 dropped three; and six dropped four. This gave the following numbers for private study: 1 period private study: 23 children; 2 periods: 37; 3 periods: 32; 4 periods: 44; 5 periods: 18; 6 periods: 17; 7 periods: 11; 8 periods: 7; 9 periods: 3. No one in any year opted for more than 9 private study periods, so we avoided the dreaded 25 per cent figure.

Numbers were getting high. We have two halls and we reckoned that we could arrange well-spaced desks for no more than 100 pupils in each. So we decided not to offer private study to the second year. The decision had already been taken not to make private study available to the first years (they must try all subjects before they are offered a choice) or to remedial groups in all years.

The new arrangements began in September 1981. The halls are set out as for external examinations. No talking is allowed inside them. The children are told to space themselves out - they do; only twice in the week are there nearly 100 in each hall. Tutors are cooperating by talking to children about what they intend to do in private study periods, and are offering advice on reading books.

So far, there have been no problems. The atmosphere in the halls and in classrooms is good, and all strong objections to private study have ceased. Pupils welcome the chance to work at the subject they have chosen and parents seem happy. We do not know yet what effect there will be on examination results, but the indications are good, and the subject teachers optimistic.

Rod Griffin is director of studies, The John Bentley School, Calne, Wiltshire.



Mervyn Taylor and Yvonne Garson are lecturers in education at the University of Keele. Their book, *Schooling for the Middle Years*, was published last month by Trentham Books, 30 Weniger Crescent, Trentham, Staffordshire (£5.95 post free).

Irene Brown, in her recent review (*TES* 5.3.82) of Simon Winchester's *Chronicle* programme *Riot* argued that the riot should be seen as an important expressive force for the alienated elements of British society and appeared to accept it as an inevitable feature of the political system. To that extent the review was in harmony with the producer's aim of showing the riot as a well-established method of protest in our history and a source of understanding for today's demonstrations. The linkage of historical events and current political issues is, however, always a hazardous enterprise and one that demands a very careful definition of terms if it is not to prove misleading. Unfortunately, in this case, it seems that both Simon Winchester and Irene Brown have drawn highly dubious lessons from the history of a phenomenon which was nowhere properly defined.

The programme itself started with the questionable assumption that there were parallels between the events in Britain's inner cities in the summer of 1981 and earlier outbreaks of civil disorder and public protest. So far from being a novel and unwelcome development, we were invited to view the violence of Bristol, Liverpool and London in historical perspective - to see it as part of a seamless web of popular demonstrations stretching from Tyburn and Peterloo to Notting Hill and Toxteth. Thus the riot, it was suggested, was not merely a familiar part of social life but contributed (and might continue to contribute) to the expansion of democracy in a number of ways. In particular, the viewer was made to consider the importance of riot as a means for oppressed and powerless minorities to vent their grievances within a system insufficiently responsive to their interests. Equally, the innocent victims of technological change and economic hardship could, by such devices as smashing and dismantling machinery, express their frustration at a situation which was not of their making.

Simon Winchester points out that, although Luddism failed in its objective, with the hindsight of history we look at it in a kinder light than its contemporaries did. The Luddite riots - like the Honiton riots before them and perhaps like the Toxteth riots today - were taking into their own hands the adjustments that needed to be made to their lives, overshadowed as those lives were by a social and industrial revolution which had profound consequences. Yet here it is to be hoped that the viewer will have stopped to think before cast-

'Riot' revisited

Gillian Peele suggests that both *Chronicle* and its *TES* reviewer have failed to make crucial distinctions between violent and non-violent, legal and illegal forms of protest

ing the romantic pall of Luddism over the bloody battles of contemporary Liverpool. For *Riot*, in its effort to establish the historical pedigree of direct action in this country, blurred the variety of forms which that direct action has taken and failed to face the fact that twentieth century riots and demonstrations are different in a number of respects from those that occurred in earlier centuries.

The lumping together of different types of direct action was misleading because it obscured the distinction between non-violent and violent protest on the one hand and between legal and illegal activities on the other. Blocking Oxford Street as a protest against unemployment is a quite different sort of activity from burning police stations and raising different ethical and political questions. Peterloo was not a riot but a peaceful mass meeting which was transformed into a massacre by the over-reaction of the troops. The

tragedy no more justifies rioting of the kind that occurred in Manchester and Liverpool in 1981 than does the memory of the Jarrow Crusade which was equally not a riot.

Such distinctions are not purely academic. The Gordon riots of 1780 may truly have been, as Mr Winchester says, "the granddaddy of all disturbances"; but how would we view attacks on Jewish or coloured minorities which would be today's functional equivalents of eighteenth century anti-catholicism? Some riots may benefit minorities but minorities may also be the first to suffer if violence becomes an accepted part of the society. Similarly, one would surely wish to distinguish between the noble ideals of political reform movements of the eighteenth and nineteenth centuries and the mindless vandalism of the disturbances of last summer. Given the informal system for distributing the consumer goods taken from Toxteth shops that summer, *Loot* might have

been more apposite title than *Riot* for the part of Mr Winchester's programme.

Fundamentally, however, one's objection to *Chronicle*'s approach to riots, direct action and public protest must stem from a recognition that the polity today is not the same as the which existed even in 1900. There is universal adult franchise, and that fact, together with the elaborate provisions of the welfare state, surely reduces the legitimacy of much direct action and makes the deaths of demonstrators such as Blair Peach appear a tragic and avoidable waste. Paradoxically, however, it may be the rioting - like football hooliganism - will become a more familiar part of our lives not least because television reporting can bring the violence directly into our living rooms. It is not so much that television leads to "copy-cat" violence - though that danger does exist; it is rather that repeated exposure to violence may blunt the sensitivity of the public towards it and condition the audience into an uncritical acceptance of such activity as a part of modern society.

It would be unfair to suggest that either Mr Winchester or Irene Brown desires to bring such a state of affairs about; but by failing to condemn certain types of violence unequivocally, they may unwittingly have contributed an iota to such a development.



The Revolution is not over

Douglas Johnson on two new studies of 1789

Interpreting the French Revolution. By François Furet. Translated by Elborg Forster. Cambridge University Press. £15.00 0 521 23574.

The French Revolution: The Fall of the Ancien Régime to the Thermidorian Reaction 1789-1795. By John Hardman. Edward Arnold. Documents of Modern History. £4.95. 0 7131 63275.

One of the most distinguished historians of the French Revolution, a Marxist and a pupil of Georges Lefebvre, was in conversation with a British historian who had noticed that a great many of the meetings of the so-called *sans-culottes* were held in cafés. "Could it be," he asked, "that we ought to study the exalting influence of red wine on the Revolution? Is it not possible that the revolutionaries were often drunk?" The French specialist did not find the remark amusing. Indeed, he did not speak to his British colleague for a fortnight. This is the sort of attitude against which François Furet is protesting. In one of the most important books to have appeared about the French Revolution for many years, even the most objective and learned of French historians, he claims, have made the Revolution into a monument, which has to be appreciated as well as studied and such historians, according to Furet, do not only behave as if they have the obligation to defend it as the struggle of the underprivileged classes, bourgeoisie and peasantry, against the privileged nobility and clergy. The whole purpose of this book is to denounce these suppositions as misguided and mistaken, nostalgic and incoherent.

"The Revolution is over," proclaims Furet and he recommends an attempt to compre-

hend a period of intense political activity as part of a more general history of French evolution. It is for this that he turns to Tocqueville, who saw the disintegration of the Ancien Régime taking place long before the great actors of 1789 had appeared on stage, and to Augustin Cochin, who viewed the philosophical drift of the Enlightenment as bringing about the conditions which broke up the unified society of the Ancien Régime and created a society of individuals.

This is a polemical book, filled with incisive writing, passionate in its criticisms of Marxist scholasticism and nationalist prejudice. But such polemic and such passion suggest one thing immediately: the Revolution is not over.

Churchill and Anarchists?

Colin Ward on the Battle of Stepeny

The Battle of Stepeny. By Colin Rogers. Robert Hale £7.95. 0 7091 9146 4.

"Mention of the Sidney Street siege" says Mr Rogers, "brings two words to most people's minds: Churchill and Anarchists". The murder of three policemen in Houndsditch in December 1910 and its sequel in Sidney Street 17 days afterwards have fascinated him for over 40 years, just as they have fascinated many a journalist and more than one novelist. He has spent six years wading through the mazes of "hearsay, conjecture, exaggeration and contradiction" that has accumulated around the events. His reconstruction of the story is completely absorbing and really deserves the reviewer's cliché "I could not put it down".

Furet makes us conscious of the illogical and biased manner in which we ask questions about the French Revolution. It is not therefore the moment to ask who profited from the Revolution and to assume that the answer will explain who caused the Revolution. This would be to suppose that Fortinbras, who profited from the misfortunes of Hamlet and his family, was the promoter of their tragedies. But it is clear that after the Revolution there were two social classes who had suffered: the nobility and the clergy. This truth is not affected by historians who point to their persistent power in the nineteenth century, or to their varying fortunes in the eighteenth century. If we refuse to talk about social classes and instead talk about rich and poor, or about notables, have we really refined our concepts?

The selection of documents, edited and translated by John Hardman, serves to remind us of many of the details which we are in danger of forgetting, namely the political and

constitutional acts accomplished by the Ancien Régime. In one of the most significant chapters, that devoted to the legislative work of the National Assembly, he points out that the legislative achievement should be divided into two categories: that which was the culmination of the policies of centralization and standardization which had been pursued for centuries, and that which was the product of the abstract thinking of the Enlightenment.

Thus Tocqueville and Cochin come alive. Perhaps Furet is wrong to think that they are totally neglected. But if it is clear that the old time-tabling of the Revolution (starting in 1789, or 1787, or 1785) has gone, and if it is certain that we should cease to endorse over a revolutionary process which might never have existed, it is not so sure that historians should interpret a longer period of history, should abandon all their traditional concepts. There is all history like subject history. No history at all.

in that the police force of the biggest city in the world could not muster enough modern fire-arms to match those of two desperate men. The real cause of the whole lamentable episode was the appalling repression of its subject peoples by the Russian government. As Mr Rogers says: "It is hardly surprising that young men who have learned from the cradle that authority will assert itself authoritatively, inexorably and often brutally should react blindly when they find themselves repressed by it".

There are, of course, parallels, which the author leaves it to his readers to draw, between contemporary events and the story narrated here. In the siege of the Iranian Embassy the police had to call in the army, possibly for the first time since 1911. We have the same debate today on the weaponry of the police, and at some levels in society the same anti-immigrant hysteria. Echoes of the battle of Stepeny are still with us.

Hollywood and history

Sue Lerman on two current efforts

John Reed has long had a place in film history: *Ten Days that Shook the World*, his account of the November 1917 events of the Russian Revolution, was the basis for Eisenstein's *October* (a shortened version of which was prepared for the US under Reed's title but - conveniently - neglected in the rush to sound). Curiously, no mention of this is made in Warren Beatty's *Reds*, such a strictly narrative version of Reed's life that it closes with Reed's death in 1920.

Hollywood, of course, has never had much sense of history, least of all in politically sensitive corners; it is prone to peddle nostalgia. So we must, initially, be encouraged by a film permitted to run 200 minutes, about an American who was regarded as a hero of the Russian Revolution, who helped found the American Communist Party, and who provided a piece of essential reading for all students of revolution and Russian history.

Reed himself seems to have lacked any sense of the past or of the future (but then he wasn't vouchsafed one himself), and whether he saw any signs of menace on the Russian horizon is uncertain. His inclination and his fate made him a committed depictee of the tumultuous now and a spurrier of the routine. A Hollywood bio-pic could well have been made of him: Reed, the greatest of all newspapermen, Beatty's film is more serious than that, giving weight, for instance, to the complexities of American left-wing politics - splits and counter-splits in badly fit halls - in which Reed was involved. Ultimately, however, *Reds* takes its shape, tension, and impulses from Reed's relationship with Louise Bryant, and the film's climax, to the strains of the 1919-20, is the reunion (at the station, where better?) of the lovers, long separated by the barriers erected around a revolution whose ideals were crumbling.

As for Louise Bryant, her life would make a film in its own right, exemplifying as it does a particularly awkward age for women. It might amplify the observation of Rebecca West, one of Beatty's contemporary

"witnesses" to Reed and Bryant and their time, on Bryant's reputation for flamboyant clothes, that women exposed a long time to danger often dress thus (dressed to be killed?). Diane Keaton's Bryant, although described by Beatty (interviewed recently on BBC's *Film 82 Special*) as "bringing the life to life", has a whiff of the seventies and its neuroses. Keaton's brand of desperate sincerity and intensity does not easily encompass Bryant's evidently capricious and duplicitous nature.

Bryant is eventually taken under the wing of Emma Goldman, the anarchist, a figure who looms large in Doctorow's web of fact and fiction, Ragtime, where she liberates one Evelyn Nesbit from her stays and corsets. Clothes are key emblems in Doctorow's novel, dividing black men from white, the settled from the immigrant, the free from the more-or-less enslaved. When the fireman defile Coalhouse Walker's car they are ill-dressed, their courage and dignity left on the peg with their uniform; Walker dresses immaculately whatever; Houdini escapes from straitjackets and conceals secrets of his trade in his clothing.

These threads of Doctorow's patchwork of the period preceding that of *Reds* are scarcely woven into the thin fabric of Miles Forman's film, which can only be seen as a Hollywood costume-drama, with the picture of infant cinema and the presence of historical perspective, Emma Goldman and other pieces of historical colour having been eliminated.

No one will be fooled into thinking *Reds* is reflecting history here, but in *Reds* something more elaborate has been created - I would say it is another Hollywood illusion, an illusion of history, backed up with Oscar nominations.

Reds and *Ragtime* at various cinemas. *Ten Days that Shook the World* by John Reed, available in Penguin. Six Red Months in Russia by Louise Bryant published by Journeyman. Robert A. Rosenstone's biography of Reed, *Romantic Revolutionary* has just appeared in Penguin.

Women on the brow

For its annual production on the main stage, the whole of the Bolshoi, Coventry, Theatre-in-Education team, playing to mainly school parties during the day and to the paying public in the evenings, has again made a foray into history.

Last year they showed us the Luddites deported to Australia. This year we see the pit brow women of the early nineteenth century in the north of England engaged in some unenviable struggles. Researched in Whig and Hindley and set in the later small town, *Handsome Terms* has been written by two of the company members, Alison Altman and Caroline Waterhouse, with lyrics and songs by another, Jane Cox. All three women act in the play, which mixes social realism with music hall songs at the footlights and is composed of ceremonies and a pianist.

The cruel logic of history is made very clear. Lord Shaftesbury's social reform forbids owners to employ women down the pit, so they are put on the brow (the pit head) for less wages. A Parliamentary attempt to get them away from the mines altogether and back home "where they belong" is defeated by the women, but only by arguing that mine work is not degrading, but on the contrary enjoyable and healthy. No reform is put in hand to change the social relations: the workforce strikes against dangerous conditions and gives up starving, having won nothing, after seven weeks.

The play falls uneasily between historical epic and agit-prop but, under Rob Bettinson's direction, the team once again produces stirring work.

D. J. Hart



Artist's Mother Writing in Bed, 1917

Paint force

Harold Gilman 1876-1919. Royal Academy until April 4.

There is something so familiarly English about Harold Gilman's paintings that they are in danger of being both sentimentalized and dismissed for equally dubious reasons. Teapots and teacups appear so often that they suggest less the matter-of-fact existence of ordinary things than the ritual symbols of national identity and pride. But if his subject matter encourages expectations of a cosy, insular art, one glance at his Arts Council retrospective will quickly dispel any fears.

Michael Clarke

Greek engagement

Philoctetes. By Sophocles. Royal Exchange Theatre, Manchester until April 10.

In his mid-eighties, Sophocles examined the problems of conscience and how to "praise the gods when we find their ways so evil" in this play, with which Michael Elliott makes a welcome return to the Royal Exchange. Set on Lemnos during the Trojan War, *Philoctetes* shows the ruthless Odysseus using the honourable young Neoptolemus to trick Philoctetes into handing over Heracles' great bow. Philoctetes is understandably unwilling to help Odysseus, having been marooned on the island years before with his agonizing, foul-smelling foot wound.

Like the thriller-like conspiratorial opening, the play rises to Philoctetes' pained outbursts and a resolution assisted by the dead Heracles ex machina.

Elliott has waited 18 years to direct Greek Tragedy; the result shows the advantage of a long, loving engagement with the genre. Brisk yet relaxed, the production gives full value

to the moral issues raised while sustaining the excitement of the story.

Sophocles uses three actors in this play, increasing the two previously found in tragedies, so we can see Neoptolemus caught between conflicting demands. The three central performances are vital in any production. James Maxwell's Philoctetes expresses physical and mental pain in a range of vocal tones. Robert Lindsay, as Odysseus, generates an energy which, like his work in the Exchange's *Beaux' Strangers*, recalls Tom Courtenay's work as a classical actor with the company. Every movement of the eyes, each facial expression, shows Neoptolemus' divided loyalties. The Norwegian Egon Skjoberg looks suitably callous as Odysseus, but is awkward in actually speaking the part.

Laurie Donnell's rocky set is best seen from above. The lighting is sometimes over-fussy but Gordon Croase's musical background for the Chorus and the noises that fill the aisle are properly haunting and terrifying.

Timothy Ramsden

Ker-powing machismo

Megaman and The Threat of Zenula. By Paul Bone. Platform 6 Theatre Company.

Platform 6 is a new all-male TIE company who specialize in selling themselves short - themselves and all those in their audience who likewise go in the catalogue as men. Their show *Megaman and The Threat of Zenula* is a brave attempt to make secondary school audiences question received ideas of "manhood".

After a call from the US President, Megaman and his British sidekick, "Tiny" Ted from Tooting, set out to defend the Free World. Burch Byron Bullship is worried that the Reds are taking an unhealthy interest in a force of aliens who have crashed landed their meteorite at sea amidst within the Russian 12 mile limit. What have the Zenulas got that's of so much interest to Ilya Shikarocksky, the sinister Professor of Pain, he wonders.

Megaman and Tiny don't wait to find out. If Byron wants the inter-planetary Pinks zapped or at the very least ker-powed they're only too happy to oblige.

Effective as a piece of theatre, affectionately gaudy comic strip conventions, *Megaman and The Threat of Zenula* comes complete with detailed suggestions for follow-up work in class. It will obviously lead on to self-defence as well as an examination of role stereotyping, though perhaps its last-minute plea for nuclear disarmament is best forgotten, at least with 13-year-olds.

Hugh David.

Further information: Platform 6 Theatre Company, 49 Balls Pond Road, London N1. (01-300 0239).

Dream work

A Midsummer Night's Dream. Highams Park Senior High School, London E4.

Highams Park School's *A Midsummer Night's Dream* was a feast of blooms, a school Shakespeare at once audible, intelligent and, Lord save us, enjoyable. While one might have quibbled with some points of interpretation, the production easily captured the broad sweep of the play. Court, mechanicals and fairies were all well characterized, but with the fairies, surprisingly, perhaps, stealing the scene. Or maybe it was an original, credible Puck (Jess Warren) whose voice was pure Poplar but whose movements had the stylised grace and energy entirely appropriate to a spirit capable of putting a girdle around the earth in 40 minutes.

At court Rosalind Hicks caught Helena's flustered desperation perfectly; fiddling with her glasses and stamping her feet for all the world like a temp who's missed her train. Younger than nearly everyone else on stage, Danny Dryer made her Lysander into an engaging, plausible philosopher - just the sort of young man to tempt you onto a later train.

Bottom and Co. the "rude mechanicals", were on the whole less well handled. Mistakenly conceived as idiots who cannot act instead of worthy if provincial amateurs, they were forced to overact and resort to silliness to gain laughs that would have come quite naturally. Bob Deller as Bottom, however, was a natural clown; a braggart, beguilingly pathetic when he didn't overdo things.

Guy Woolfenden's incidental music, composed for a past RSC production and not the easiest score for any school orchestra to handle, set the right mysterious tone as well as giving ample opportunity for free movement by the corps of sprites, bare-chested satyrs, burghersmeisters and Amazons.

Hugh David

Louder than Words, the Unicorn Theatre's event for deaf and hearing children ends this weekend with a variety of activities: *Michael Cassidy Mask Workshop* for children and adults (Sat 12.15); *Theatre Machine* performance for deaf children combining mime, improvisation and comedy (Sat 2.15); *Lulus Dance Company Workshop* with deaf children (Sat 10.30am) and with *People in the Park* (Sat 2.30, Sun 2.30 and 8.00pm); Forum - summing up with guest speakers including Pat Keyall and Terry Ruane (Sat 4.00). Full details of these and other Unicorn events from Toni Rachlin on 01-836 2574.

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LONDON BRIDGE

Further information: Platform 6 Theatre Company, 49 Balls Pond Road, London N1. (01-300 0239).

Apples from the French tree of knowledge

Anne Corbett looks at non-fiction in France

There is no doubt that the nation which produced the Encyclopaedists has a passion for encapsulated information. But in France today it no longer seems sufficient to have just the famous Petit Larousse. The shelves of good bookshops are laden with information series, many of them encyclopaedic in form.

Philippe Schuerer, director of children's non-fiction at Hachette, and a dynamo of the industry, has a different theory. He maintains that French publishers have had to suffer constraints unknown to their English counterparts in non-fiction. At least

until the last few years, when public expenditure cuts began to bite, "your publishers have been in an extraordinarily privileged position, knowing that most of their production would be taken by your excellent school and public libraries." In France, in contrast, he maintains, there has been no guaranteed institutional sale on anything like the same scale. The consequences are evident in production.

Many English information books appear to the French to be amazingly and enviably specialized: fine when they can be used by a number

of people, as in a public library. But French publishers have to set out to "seduce" a general public. Hence features which are instantly recognisable: the brand loyalty appeal of series to parents, the comic strip illustration on everything from geometry to music to capture the interest of the Tintin and Asterix generations. The history of a hedge (from Centurion Jeunesse), successful books on squirrels and frogs (Albin Michel Jeunesse), the series on the construction of castles and the destruction of a skyscraper (Deux Coqs d'Or), almost inevitably have anglophone names on the cover (John T. White, Margaret Lane, David Macauley).

Schuerer himself has been directing recently a reasonably priced encyclopaedia series (around 70 francs each volume) with the linking title of *A la découverte de...* The volume on art rejects a chronological approach in favour of a discussion of 90 world-famous pictures which are then put in context (the book has been awarded a major literary prize). A volume on history has also appeared. Others follow on music and technology. Larousse is tempting the younger reader (eight or so to 10) with *Ma première encyclopédie*, produced by one of the foremost critics of children's books, Simone Lambelin. Its form: double pages divided into a section on nature, man in society and the earth and its inhabitants. Its aim: to encourage children to understand the world in which they live and push their researches further.

History series are prominent, especially from the big publishers which first made their fortunes in school-books (Hachette, again, with a cartoon series *La Vie privée des Hommes*. The latest volume is on the Celts). Nathan with a series *Comment vivent...* and Bordas with a series on *Les voyageurs d'histoire*. The popularity is linked to a widespread view that history now has too small a place in the school curriculum.

Also from Bordas comes a new-launched series *BDplus* (see illustration). Each book takes an event which illustrates one of four themes: trade, slavery, justice and business. There is a good text leading on from the comic strip to deal with areas which are often peripheral to the school programmes. The books are

sold as suitable for 10 upwards but subjects like the Wall Street crash have an appeal to secondary pupils. Hatier has recently gone back to prehistory, with a series *D'un vient l'homme* (for 9s, 10s). The first two titles: *L'Océan des origines de la vie* and *Le règne des dinosaures*.

Harold avait raison... Le jeudi 24 Octobre 1929, à la Bourse de New York, les actions des plus grandes sociétés américaines perdant leur valeur, les propriétaires des actions se hâtent de les vendre à des cours dérisoires.



From 'Krach' Collection DB+

Larousse has a much praised geography series on countries, also in the encyclopaedia mould, and with high quality colour photos and layout. The latest addition is *L'Irlande*.

There is a tendency to personalise other times, other lives, especially for younger children. Père Castor-Flammariion has a successful series *Enfants de la Terre*. A recent well-reviewed title is *Claire et Pascal, enfants de marins*. There is also a particularly interesting series, *J'étais enfant*, from a newly established publisher called Le Sorbier, which is tackling such subjects as the Occupation, in fictional form based on historical fact.

Among the nonfiction of French origin, folklore plays a prominent part. But it is evident that the very new as well as the very old has an appeal. There are a number of new titles on computer science which

have pleased the critics (*L'information* by J.-P. Petit, Belin; *L'information, le technique, les techniques nouvelles* by H. Nora and Ph. Vial, Hachette).

Nature never flags. One publisher which successfully gets away from

animal banalities is Berger-Levrain (eg *La Vie au Rucher: les abeilles*, *L'apiculteur et le miel* by Ph. Hachey).

To end with, two books which say in the mind because of their authors. Claude Lapointe, a well known translator has produced four little books on graphic design which most effectively show some of the tricks of the trade. (Gallimard). Philippe Des, who has written and illustrated outstanding fiction for children, published with Flammarion *La qualification de L'Ecole Expérimentale*. Its combination of fact, fiction and personal experience should ensure that it is not seen as suitable solely for Thelwell's little girls.

Baker Book Services, Little Med. 8N10 Road, Cranleigh, Surrey, GU8 8NU is working with a consortium of French children's publishers and is thus a contact point for finding out more.

Angles for serving maids

Naomi Lewis on a prize-winning book

A Visit to William Blake's Inn. Poem for Innocent and Experienced Travellers. By Nancy Willard. Illustrated by Alice and Martin Proven. Methuen £5.50. 416 22160 Z.

It's the title that first prompts attention, even before the fact that here is quite unusual Newbury prizewinner. That American award customarily goes to a sizeable work of fiction, not to a fairly young child's picture book (large flat format) whose text consists of 16 poems. Yet this text has just won the Newbury Medal for William Blake's Inn; what's more, the Proven pictures have made the same work a close runner-up for the art equivalent, the Caldecott. That said, back to the book. Blake? The name gives immediately, a certain promise of interest. But the Inn of W.B.? What's that? something we ought to recognise?

No need to search memory: it's a fantasy, a tribute to the poet, first met in the author's childhood, for children of today. As Nancy Willard engagingly tells in her Foreword, she was given Songs of Innocence and Songs of Experience when she was seven, and their spell was instant and lasting. In the present book she sees Blake as keeper of an Inn, which sends on a "holy bus". This Inn and its happenings are described in the poem and are carefully portrayed by the Proven. Among its guests are a tiger, large and mild, a bear, a rabbit, a sheep, some sunflowers: "Ah, Williams, we're weary of said, the sunflowers, shining with dew."

Our travelling habits have tired us. Can you give us a room with a view?"

The traveller who narrates is a small boy (aged about seven) neatly dressed in the Greenaway/Rogency mode. Two dragons are the cooks, two angels the serving maids.

Two patient angels wash and shake his featherbeds, and far away snow falls like feathers. That's the duty good children run outside and snowmen to honour William Blake.

Charm and ideas abound. And yet are these always related to Blake? Are we not at times in a different key, kept perhaps by innkeeper Lear, or Carroll, or maybe Eugene Field? Take the poem about the boy's arrival in Blake's Celestial Innhouse (a splendid affair in the pictures, part open coach, part grand bird, part Heath Robinsonian helicopter):

My suitcases began to purr. "Your luggage is excessive, sir. All luggage must be carried flat. And worn discreetly on your hat or served with mustard on a bun." Alarmed, I said I hadn't one. Fine stuff in the Carroll line, but no way Blake. Take another, which has six lines in all.

"Where did you sleep last night,

Where did you lay your head?" "I caught my horns on a rolling cloud."

And made myself a bed - Enough! Stop there! But the author cannot resist an extra verse, and Blake is lost again.

- and in the morning ate it raw on freshly buttered bread."

The School of Nonsense has, as we

know, its writers of genius (as well as its writers of whimsy) but Blake did not use either language. (True, he tossed off many a mad-seeming fragment, but nothing that he said lacks meaning or point.) The reason seems to lie in the extraordinary realism of his imagination, in which angel, devil, tiger, lamb, and "emmet", even the ghost of a flea, were natural inhabitants, of their own kind, on their own terms. It is hard to think of another mind of genius in whose daily life the practical and the visionary were so fused. Blake could not and would not have written *Alice*. He did not ever see animals as comic, whimsical, or (in fashion) as scapegoats for human weaknesses. His genius, and that of Carroll, traced totally different paths. So (to return to the Inn) it is pretty sure that at Blake's table even the most favoured cat would not be served roasted wren (as in one of the Willard poems) or "a fat mole smothered in starlight". Nor was it Blake's nature to give the "sullen rat" iron shoes and a dismissive

achieve this: a single poem will do - Augustus of Innocence, which covers all the essential ground. Perhaps it should have been printed in this book at either end.



"The tiger asks Blake for a bedtime story"

Yet, away from the nonsense/comedy area, the book begins to take hold of the reader; pages are turned to again. One such is Blake's address to the fire, whose "bright behaviour" - a good phrase, that - cheers the shivering pilgrims. There's a character too called the man in the marmalade hat, who arrives in the middle of March, and whose presence brings an inexplicable thrill. To be sure, he owes rather more to E. Lear, and Swinburne, and royal Solomon, and even K. Grahame than to Blake, yet he earns his place at the Inn. (Ee also deserves, you could say, a less sinister face from the Proven.)

So what's the verdict? The book may not be Blake, but it is a work of strange excitement; the taste it leaves is of a dream that a child would wish to catch and remember. The clean meticulous pictures reflect with skill whatever the author says.

not, we will end up, with formulae books written by hacks - we have many already, much acclaimed - and what a waste of the life spirit that is. *My Mate Shofiq*. By Jan Needle. Deutsch £3.50. 233 96987 X. Fontana 70p. 0 00 671518 4.

Nobody's Family is Going to Change. By Louise Fitzhugh. Gallance £4.55. 375 02080. 6 Fontana 90p. 0 00 671531 3.

Idol. By Jean MacGibbon. Heinemann £2.50. 434 9488 8. Puffin £1.75. 0 08 025619 8.

Sumitra's Story. By Rukhsana Smith. Bodley Head £3.50. 0 370 304 667. *Go Well, Stay Well*. By Toecay Jones. Bodley Head £4.25. 0 370 30176 5. *Come to Mecca*. By Farrukh Dhondy. Fontana 85p. 0 00 671519 2. *A Patch of Blue*. By Elizabeth Kata. Penguin 85p. 0 14 001817 4.

Darton devotees

J. H. P. Pafford on a classic revised

Children's Books in England. Five Centuries of Social Life. By F. J. Harvey Darton. Third Edition. Revised by Brian Alderson. Cambridge University Press £12.95. 0 521 24020 4.

Harvey Darton's *Children's Books* was first published in 1932 and rapidly became a much loved classic in its field and even more widely. He died in 1936, and the book was lightly but well re-edited by Kathleen Lines in 1958. Now, after a similar interval, Brian Alderson brings out, in slightly larger format, a third edition, and the event is of first importance for all interested in the fascinating story of books for children. Fascinating is indeed the word; for the story is a social history of changes in attitudes to children and their place in the home and in society, of views on religion, morals, education and culture, on taste and aesthetic values in writing and pictorial illustration for children, and on publishing and book production for them. These are the main themes although the list could easily be extended, for Darton's book is cultured, scholarly, full of information, and written with a grace, charm and fluency which make it truly captivating. Kathleen Lines' admiration for it was profound: Brian Alderson's is the same; and so is that of all who read and use it. Those two verbs are necessary since besides being most readable, it is also a reference work of key importance.

If the first revision was light, the second is much more thorough; but each editor treats the original with the loving respect of a connoisseur handling a priceless piece of porcelain (the analogy only holds for the quality; Darton is robust enough). The original and vintage Darton remains.

Alderson's work has been chiefly: 1. To check facts and make minor corrections and additions in the text. There are dozens, perhaps hundreds, of these, special attention having been paid to names, titles and dates.

There are also some corrective rewrites of sentences and paragraphs, skilfully done in Darton's manner and wherever possible with his words. 2. To add notes where these are brief, as footnotes; where they are longer, in a separate list. 3. To

provide appendices. Of these the chief is on Victorian and Edwardian times, a substantial addition to what Darton had to say. The next outlines the evolution of the Newbery firms and successors and the Darton firms. The third is a bibliography of Darton's writings, and the last a reprint from *The Cornhill*, May, 1932, of Darton's article, "The Youth of a Children's Magazine". 4. To provide more illustrations. In 1958 there were eight full-page plates; in 1982 there are 75 illustrations, all in the text and few full-page. These, while for the most part not quite up to the standard of the 1958 plates, are good, and add greatly to the interest, attractiveness and authority of the book. 5. To check and add book lists. Darton's lists have been corrected and supplemented. And, instead of the 1958 general list of 10 titles, Alderson provides a full-scale, classified bibliography of a hundred or so titles of general works on children's books. The whole work has been fully re-indexed with great care; and, most helpfully, by telescoping paragraphs and judicious placing of illustrations, the pagination roughly tallies with that of earlier editions. Alderson has taken this trouble so that references to Darton in other books may be traced without much difficulty in this new edition.

It will thus be seen that we now have a corrected and amplified version of Darton which has been brought up to date (as far as that can ever be done) by someone who is an acknowledged authority in the field. The main overall improvement is, naturally, in the value of the book as a work of reference, but this has been done without in any way impairing its quality and attractiveness as a book to read. The alterations and additions are innumerable but unobtrusive; the editor has done his task faithfully and it is hard indeed to see how it could have been done better. Dates, titles, even the spelling of names are gently corrected without comment. One can say, without a touch of extravagance, that it is all as if the revision had been done by Darton himself.

All who have any interest in children's books and all libraries in the humanities will want to have this new Darton, and we can be sure that if Harvey Darton is looking down on this new edition he is nodding with warm approval.

Black and white are beautiful

Lella Berg on books for the multiracial secondary school

Jan Needle will have to work hard the rest of his life, because nothing, nothing will ever be better than *My Mate Shofiq*. One school banned two books in a day; the other one was *Kes*. Can anyone comment on that? The relationship of school and society? The relationship of school books and real kids? Of real books and school books? Of the number in school (or the number in class) and the definition of literature? Of schooling, conformity, truth, racialism?

Back to Shofiq. *Smallcreep's Day* is for adults, but Shofiq tells it straight, not allegorically: it is a passionately unsentimental book both accurate and truthful - about kids in a Salford Paki-bashing district, about a boy who draws a Pakistani kid into his gang, about the man from the Welfare. Which is more violent, the streets, the school, or the social security office? And can you *limit* violence? This is a very thoughtful book, utterly absorbing, exciting and moving. No one who has read it (not "no child", "no one") will ever be the same again; which gives our society a chance of improvement. And it seems schools find truth too hard to nut to crack, the fact that Fontana's do it in paperback will make it easy for kids of 11 and over to get hold of it themselves.

Nobody's Family is Going to Change (same age group) is about a black middle-class family in which the lawyer father constantly cele-

brates the death of the bad old days ("Everything's different now. My kid's got every chance in the world") by stopping his kids from doing what they deeply want to do. Willy to become a dancer (black stereotype), Emma to become a lawyer (men become lawyers - jump to it, Willy!), Emma a fighter, finally works out that you can't change other people, but you can learn not to want their approval. This sounds rather heavy for kids; but in fact it is warm, witty, and very readable indeed. Whenever I reread Louise Fitzhugh, I again feel an intense personal loss that she died so early and so suddenly, when she was becoming one of our most enjoyable writers.

Hal is a Risinghill. *Dusty Answer*, or, in the Puffin edition, an older *Secret Garden*, though set in today's England, it evokes old classics. It is a book about a sick boy yanked and coaxed into health by a vigorous girl, and much more than that, a book (for 13s to 15s) about boys and girls growing up together and recognising their own sexuality. That Hal is West Indian, Barry Ennis is black, and Miss Camperdown is a comprehensive school teacher is part of the new picture.

I was startled (though ruefully surprised - a different matter) to see the Puffin edition took out the most explicitly sexual paragraph, thereby not only silently mutilating the au-

thor's work (it doesn't say "Exaggerated" anywhere) but, by clever editing, actually altering the whole sense. But even in the Puffin edition, it is a good children's book. I'm delighted to say, in Whetton's *Sumitra's Story*, it is close on superb. *Sumitra's Story* is about a teenage Asian girl, driven out of Uganda with her family, and settling in London, where the tensions between the two cultures, and her awareness that she needs nourishment from both, force her at last to leave her family. It has a beautiful opening that merits classic status, and if it doesn't quite keep throughout that delicate touch, an affectionate style, it almost does. An important book, not only for older teenagers but for teachers; its quiet integrity is powerful.

It reminds me of a little of an earlier, well-stayed book, *South Atlantic*, by West Well, laid in South Africa. Also about teenagers personally affected by social and political events and choosing ultimately to live by their own decisions, not their families'. The story, of a developing and honest friendship between Candice (white) living in the Johannesburg suburbs and Becky (black, living in Soweto), is told from Candice's point of view. It is very different in tone from *Sumitra's Story*, but here too is true experience, and painful exploration. Come to Mecca is literary journalism at its best. If we had more newspaper or magazine editors who

Continued opposite

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PUBLICATION: 5 APRIL
PRICE: £4.95

resources

Thursday's movies

Victoria Neumark on a decade of film studies

If it's Thursday it must be film, was the title given to a recent celebration at the NPT of 10 years of ILEA Film and Media Studies. This course has recently become a Mode 3 O level, and is very popular in sixth forms. From the beginning, films have been studied on a Thursday afternoon - hence the title.

They are studied both for content and in a wider cultural context. Film studies have thus linked with other areas of the curriculum - social studies, drama, English and technical subjects.

What does the O level - and the long-running CSE - have to offer the student? All film courses look at images, of course, at the stars and stereotypes which showbiz has crystallized for us, but the ILEA syllabus broadens its scope to take in Film as Industry; Genre Studies; studies of individual directors; and Technical Practice in making videotape at the ILEA teachers' centre in Highbury.

A typical CSE Model 3 - such as the one run at Peckham Manor School - concentrates most upon techniques, asking students to submit work on storyboard drawing, script-writing, graphic design, and studio techniques from camera work and mixing to caption pulling and programme planning. The typical O level, however, will focus upon structural analysis, with the emphasis on written work.

Thus under Film as Industry the syllabus proposes an examination of "the notion of film as 'product': the implications of that notion" and "what constitutes a 'property'", as well as a more conventional study of finance, marketing and distribution. The progressive nature of the syllabus is evident in its inclusion of Film as a Co-operative Industry as a topic for study - a way of surveying the contributions made by individual workers. Genre Study, Authorship (two to be chosen from a list of 15 directors) and an optional unit on another aspect of cinema make up the year's course.

Industrial introductions

CRAC Case Studies
Careers' Research and Advisory Centre
CRAC Publications, Bateman Street,
Cambridge CB2 1LZ. £3.40 each, or
£27.15 for set of 10.

Starpoint Terminal distributes fuel oil to customers over a large area. In winter, high demand means that the firm has to take on contract hire lorries and temporary clerks.

When Jones of Middletown, a client who regularly forgets to re-order until the last possible moment, rings up in a panic and demands 3000 gallons at once, a special load is sent out with a new temporary driver. No one with any specialist knowledge is about when he arrives, but the oil is duly pumped into Jones' storage tank.

Damsel and natterjack

The Ravine, Habitat, Flora and Fauna
Mountain Environment, Headland
Environment.
By John Farrell

Packs of 24, 35mm plates mounted colour slides with teaching notes, £6.90 each.

Audio-Visual Productions, Hocker Hill House, Chepstow, Gwent

Mountain plants and animals provide interesting examples of how organisms can survive under extreme conditions. This set begins by identifying the major mountain areas of the world, showing some of the major features: snow line, tree line, gla-



"Viewpoint" was a controversial series from Thames television

This AEB syllabus is, as is evident from this brief précis, heavily influenced by recent semiotics thinking, and it was entirely appropriate that Professor Colin McCabe of Strathclyde University (recently dismissed from King's College, Cambridge for his espousal of semiotic lines of thought) should give the celebratory lecture at the ILEA seminar.

Of more direct interest was the earlier programme in which Chris Mottishead, the ILEA officer in charge of the course, introduced four excerpts from film or television programmes which would be used in class, with some brief remarks as to the sort of work that could spring from them.

The first excerpt used in discussing "values" and the selective image presented in even apparently factual presentations, was from *Looking at Documentary*. This BBC Continuing Education programme was presented by James Cameron. The excerpt contrasted two possible treatments of a film about the Lavender Hill housing estates in Battersea, one as lavender-coloured as the estate's name, one full of grim concrete realism.

As Mr Mottishead pointed out, our own prior knowledge of such situations in real life might make us less the gull of the makers of such programmes, but when it came to foreign news, where our outside information might be nil, we can easily fall prey to the programme-maker's bias.

The next excerpt, from ITV's *Viewpoint* episodes in *The English Programme* series, had Jonathan Dimbleby discussing on the news an entertainment in an entertainment in which the Third World features as an area of continuing disaster.

The excerpt which followed was intended for the Film as Industry side of the course. It was a film of

the pre-publicity and publicity being worked for the launch of *The Spy Who Loved Me*, another James Bond product. The scenes in which moguls from film and advertising sat around considering which tactics should appeal to housewives and which to the summer trade were almost surreally close to what viewers of Hollywood's own products would expect, right down to the cigars in the mouths.

Dramatic personae apart, some useful points about the merchandising and hard sell with which big investment in the film industry are boosted were made in a short space of time. Finally, with excerpts from *Raid on Ennoble* and *State of Siege*, we were in the realm of Politics and Entertainment. The dice was rather thrown against showbiz's own All-American politics-entertainment equation, for *Raid on Ennoble* is surely one of the lamest potboilers ever dreamed up to cash in on an exciting event.

All the same, a film and media studies course is a thing to be welcomed. Education's task in confronting the world outside grows daily more complex. The Newsome Report of 1963 pointed at the media as "the most significant environmental factor that teachers have to take into consideration".

Professor Raymond Williams observed chillingly that "watching dramatic stimulations of a wide range of experiences is now part of our modern cultural pattern... most people spend more time watching various kinds of drama than in preparing and eating food".

Whether this trend will mark an advance or a decline in human civilization must depend on how critical are the eyes which greet this plethora of dramatic stimuli.

by Nigel Richardson

Next morning, after a frosty night, Jones' engineer tries to turn up the heating boilers and finds that nothing is firing. The wrong grade of oil has been pumped in.

The Saturday morning overtime shift has to be sent home. Whose fault is it all? Who should be liable for pumping out and repairs? Should the workforce be compensated for loss of earnings? What can be done to prevent such a situation happening again?

This is one of the 10 problems that make up this set of case studies for use with sixth form and other groups. Each comes as a file containing 20 copies of the student brief, a sheet of teacher's notes, and general guidelines on the use and benefits of such material.

Some of the situations are de-

signed to be acted out in committee or as confrontations, and most could be used as a basis for a discussion group or for drawing up written reports. They demonstrate both the interaction between the various branches of industrial work - personnel, production, marketing and finance - and the complexities of the problems and the range of solutions.

These cases can be used with students with a wide variety of abilities, and are particularly valuable in highlighting detailed situations. They are flexible both in method and length of use, and they form a very valuable source material for a sixth form introduction-to-industry or general studies course. It would be as well for teachers using all these studies to emphasize that industry is not only concerned with conflict and dispute.

by John A. Barker

video on overall view of the nature of this environment, and some of its commoner plant species: heather, or, gorse, bracken, tormentil, eyebright. There are also some less obvious members of the community in the heath spotted orchid, the rare wild gladiolus and common sundew. Ten slides are devoted to a selection of animal life which ranges from the small red damselfly to the rare natterjack toad and from the even rarer smooth snake to the nightjar.

It is a great pity that, when areas of heathland are under threat, the conservation issue was not more fully explored - especially as three rare species are included.

In both of these sets the photographs are of a very high quality.

Selection procedures

G. V. Wilson on choosing audio visual materials

Ideally, audio-visual resources are effective because they have been selected to achieve curriculum goals and match the needs of individual learners. But what happens all too often is that equipment and materials lie in cupboards and stock rooms, unused and unusable. There is, though at the moment it may not seem so, a great deal available. Too much is bought and too little is used.

This is often because the wrong resources were bought in the first place. This is most obvious with the audio-visual equipment. The problem of selection can be divided into two categories: the selection of make and model; and the selection of medium.

The selection of make and model is becoming less of a problem as more and more local education authorities introduce constraints. These may be related to bulk purchase economies, ease of servicing, standardization policy, or safety.

Some authorities have set up test centres to validate equipment but in areas where guidelines are not available, other sources of advice can be found. The User Specifications published by the Council for Educational Technology, for example, indicate the possible requirements of the educational user.

Choosing the type of equipment is the more complex problem. Is it really worth buying television or fade-slide dissolve units? Unfortunately, there is no equivalent of the technical performance test to help in making this decision.



There are many reasons for non-use

Any justification for any type of aid can probably be supported or refuted on equally sound educational arguments. The equipment itself does not teach - its success or failure depends almost entirely on the message carried by the materials. In education, at least, the medium is not the message. Decisions have to be based on particular needs.

The following questions may be helpful.

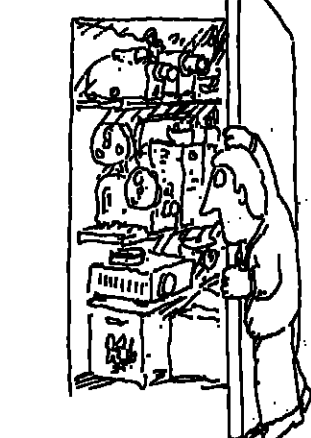
- What equipment do teachers say they want, and why?
- What types of equipment are used most, and by whom?
- Why is that type of equipment chosen?
- What materials are already available for that equipment?
- Can the equipment be used with learning materials made by teachers?
- What are the running and software costs?
- Is the item easy to use, and portable?

It could be argued that these are the questions of a cost-benefit analyst and not an educator. The educator, perhaps, must consider innovation, and a new type of equipment could be a wonderful stimulus, and lead to the production of a new range of resources. Experience suggests that this doesn't happen. Curriculum development must come before the equipment purchase.

Equipment selection problems are insignificant in relation to the selection of the software. The range of choices is almost frightening: from expertly produced, tested and validated materials to the home-made slide set from support materials for a single lesson to total curriculum schemes. Many schools have purchased materials that turned out

to be unsuitable and were used once or twice and then filed away and forgotten.

There are many reasons for



Equipment left in the stock room

use. They include bad design and changes in the curriculum beyond purchase and use. Teachers often select materials simply because of the "not developed here" syndrome.

There are, however, very real problems in selecting learning materials. Well designed materials tend to be produced to meet specific learning objectives. Teachers may have wider objectives, and so need much more flexible structure. On the other hand, collections put together under some global heading tend to be too loose in structure.

In the ideal world, one could imagine a vast bank of tested resources which could be matched to specific needs. In reality, it is almost impossible even to get a precise description of the contents of a collection of materials. "Paper - their life and habits, suitable for seven year olds" is hardly information on which to base a purchase decision.

Some questions could be asked about the materials. The right answer will not ensure that the materials work, but should increase the chances.

- Are the materials designed for a specified group or is it claimed they match the needs of everyone?
- Is the specified group identifiable, not only by age, but also by a description of the previous learning required to use the materials?
- Is the objective described in the teacher's notes and in the materials for the learners?
- Is there both an overview of the content and a review of it?
- Are the learning stages clearly identified and appropriately structured?
- Will the learners be active or passive when using the materials?
- Is there an indication of follow-up learning?

The use of learning materials must be at least as complex as the teaching and learning process itself, and no set of questions will identify the key to success, but they may open the route to more rigorous selection. This selectivity is imposed on us by financial constraints, and we owe it to the learners anyway. The selection of the right resources - equipment and learning materials - will not make a bad lesson into a good one, but may help make a good lesson into a better one.



Precise description of contents

resources

Star prizes

Roger Stephens announces the winners of the Schools Computer Competition

Five schools were yesterday (March 25) presented with star prizes for student-designed computer projects by Mr Kenneth Baker, the Minister for Industry and Information Technology, in an award ceremony at Admiralty House, London SW1.

The schools were participants in the second M.A.P. (Micro-processor Applications Project) Schools Computer Competition, which is sponsored by the Department of Industry and organized by the British Computer Society. Projects included a computer controlled trout-farm, a robot, and graphics for very young deaf children.

The main winners were: Tabor High School, Braintree, Essex; Trinity School, Carlisle; Norwich Girls' High School; and Perryfields School, Sandwell, West Midlands.

There were also special prizes for teacher-assisted work from three schools for the physically handicapped.



Mr Kenneth Baker, Minister for Industry and Information Technology

ped. These were: Roger Ascham School, Cambridge; Fleming Fulton School, Belfast; and Sherbourne Fields School, Coventry. Special prizes were awarded for work in two E.S.N. schools, Hitchmead School, Bedford; and Petermester School, Cirencester.

A full report on two of the projects will appear in the Resources for Learning Extra, in the TES of May 7.

Making pictures

by Peter Dormer

The Arts Council and Photography Report
Copies available free from The Arts Council, 105 Piccadilly, London W1. Enclosed stamped addressed envelope.

There was a row two years ago when the Arts Council disbanded its photography sub-committee and lumped photography in with the work of the Arts panel. Now, *The Arts Council and Photography*, a report from a working party established to review this arrangement, asserts that most Arts panel members are "neither much informed about nor interested in photography".

Not surprisingly the reincarnation of a specialist sub-committee is recommended, but with the emphasis that this time policy must include a strong educational element. It may be that there are now as many cameras as ball point pens, but the potential of photography is still very little appreciated.

There will be no bursaries for photographers and the number of small travelling exhibitions is to be cut. Support for photographers will come in the form of commissions, regional exhibitions, and through schemes such as photographers-in-schools.

Because community art has been largely devolved from the Arts Council to the regional arts associations and photography is also to be devolved, a growth in community



Arts Council exhibitions include the work of photographers past and present. Above, Alley in Bernadette, London, 1930s. Bill Brandt.

photography is predictable. This activity is broadly educative and usually based around the three obvious points - home, schools, and work.

Robert Boyle, a community photographer in school/community scheme, There are many small community and three activities - educating people in taking and making photographs; acting as an unofficial visual historian; and portraiture, a particular interest of his own.

Schools wanting their own projects need not wait for a formal photographer in school/community scheme. There are many small community and arts groups with an interest in using photography for educational and social purposes.

Information and advice can be obtained from the regional arts associations or from the Arts Council's education department. A report on photographer-in-school schemes is expected from the Arts Council later this year.

Letter

Sir, Whilst we appreciate the enthusiastic review of *Caribbean Anthology* (TES, February 19) there are certain wording errors and omissions which we feel it is important to point out. Firstly, the compilers are mentioned by name, reference should also have been made to the contributors, James Berry and John La Rose, whose role was central.

There are additionally a number of inaccuracies which might cause confusion. The author of "Prandina" "Wings of a Dove" and "Rites" is, of course, Edward Brathwaite. The review seems to suggest that "Rites" is referred to as "Kensington, in Barbados".

Further confusion arises in the mention of Linton Kwesi Johnson's poem "In the Night", is "Five Nights of Bleeding", and it was written several years before the Summer of 1981.

From the way the reviewer writes

about the importance of dialect, we feel that the impression may have been created that most of the poems are in dialect, whereas the majority are written in Standard English. This may be an important consideration to teachers.

Finally, a very practical point, the price quoted of £3 for the pupils' book is for a pack of five - not a single copy.

The above are necessary points of clarification. The fact that we point them out does not mean that we do not welcome the lively review.

LORNA COCKING,
Advisory Teacher,
Learning Materials Service,
Inner London Education Authority

JOAN GOODY
Advisory Teacher for
Multi-ethnic Education,
Inner London Education Authority

resources

Emotional turmoil

by Roy Blatchford

ETV
Scene
BBC TV, Thursday 10.32. Friday 2.02

One of the more pressing concerns for schools and the wider community over the past decade since ROSLA - and increasingly urgent since the events of last summer - has been how best to cater for the disturbed adolescent.

A variety of Intermediate Treatment Centres, truncky projects, off-site units and "safe-sites" have been established under local education and health authorities, but relatively little has been revealed about their day to day workings except when the press have scented a story of child abuse, malpractice or crisis.

"Troubled Minds" (March 18, 19) was therefore laudable attempt to open the doors on one particular Young People's Unit - "We're not a loony home" says one youngster - run by the NHS in Macclesfield. Teenagers in the 14-16 age range with suicidal tendencies, histories of drink or drug abuse, family or other personal problems, can refer themselves voluntarily to the unit. They stay on average about four months.

The documentary opened with the claim from one articulate teenager that the BBC had asked the young people to make a film about themselves. Exactly where the editorial control was during shooting is difficult to guess.

The programme is weighted in favour of the young people, and it is their narrations that accompany the crisp visual sequences.

The film gained a great deal in laying bare the process of group therapy and some of the acute emotional turmoil experienced by these

dozen youngsters, as well as by its exclusion of the adults' viewpoint. But it lost in its assumption that the pictures could tell the whole tale.

The attitudes of the therapists, nurses, teachers, social workers and psychiatrists who staff the Unit were ignored. Questions about the tensions caused by concentrating a group of "troubled minds" in one building, five days a week, were left unanswered.

Perhaps these are simply predictable teacher responses. For the fourth-years with whom I watched the programme, the film prompted intelligent debate about the disruptive elements within their own school and about many of the problems shared by all teenagers.

This week's *Scene* has a much less weighty subject. "Don't Shoot the Referee" (March 26, 26) is a neatly conceived study of two football referees: Neil Midgley, accustomed to the first division, and Neil Farrell, who is learning his trade in the municipal parks of West London.

The film suggests the types of personality likely to succeed in what remains Britain's most popular amateur profession, slotting together several contrasting scenes of a first division Northern derby and a very physical, needle-fixture in one of London's Sunday Leagues.

The tools for the trade, the physical and technical training, the belief that refereeing is about management, unobtrusiveness and mutual respect - are common to both men.

At times the film is amusingly edited and informative; at others the pace flags and sequences begin to repeat themselves - and whether it will have any mileage in a mixed or girls classroom seems doubtful, despite its efforts to include shots of women supporters.

Anarchic japesters

by Frances Farrer

CHILDREN'S TELEVISION
CBTV Channel 14
Thames for the ITV network. Tuesdays, 4.45 pm.

The situation in CBTV Channel 14 is this: two young workmen have got into a boiler-room at Thames Television and are transmitting a pirate magazine programme. Meanwhile the directors at Thames desperately want them off the airwaves but are somehow unable to get to them.

This excellent jape is growing in strength as the series continues. CBTV replaced *Art Reports*, a rather earnest, informative series with people mostly talking straight to camera. Jim and Steve, the presenters of CBTV, never appear to read from an autocue, often fail to look at the camera, and do all their studio links live. This works surprisingly well, with the "access" conceit excusing the feeling of anarchy.

The news reports, on the other hand, are totally professional. Information is selected and angled towards what children want to see. An item about the financial problems of zoos, for example, shows the type and quantity of the foods that each side their enclosures.

The filmed news items are always positive in outlook: there'll always be a chance that the zoos can be

saved, or that the kids who have flocked to London for auditions might really get into the National Youth Theatre. These inserts are also very short and slick. About three minutes is the average length.

Regular features include the Hot Seat, in which a newsworthy pop or sport person is grilled by a studio audience of kids; the kid-in-the-street interviews on topics such as corporal punishment; the appeal to keep CBTV on the air; and perhaps best of all, the weekly break-in to the studio, which is difficult every time. Once, they got in by being dropped on the roof by a helicopter, SAS style.

CBTV Channel 14 seems to be getting very much nearer to what children's television ought to be. It is accessible without being intolerably amateurish, it is live and immediate, and generally it relates skilfully to its audience.

As yet it hasn't quite worked out how to cope with interviewing children, whether in the studio or in the street. Sometimes it falls into clichéd traps such as putting in a pop singer's video, something every other programme does. Its name is clumsy and incomprehensible to all but Citizen's Band radio freaks. But by and large it's vigorous, informative, entertaining, and very welcome.

Harrowing footage

FILM/VIDEO
Stop that Fire
Sorel Films. Colour sound, 13 mins. 16mm, videocassette.
Sale, £125 plus VAT; Hire: £25 a week plus VAT.

Sorel films, 120 Long Acre, London WC2.

"It was just an ordinary Tuesday" - but the Woolworths store in Manchester went up in smoke and 10

people died. More than 900 people in Britain a year perish in fires, yet fires are completely preventable. Although *Stop that Fire* is aimed, as its title and presentation make clear, at the adult market, much of the footage could be very useful in the school.

The interviews with people who had tried to save others in a blaze particularly harrowing. "They were just stuck in that lift, you know, screaming", and the sequence, shot

media

Briefings

Radio and tv

Open University

Charles Dickens - *Childhood in Victorian Literature* (Saturday, 06.25 BBC2)

Angus Wilson traces the novelist's fascination with childhood. Shows the importance of *Twist* and *David Copperfield*.

A Year of Change in Three Children (Saturday, 08.55 BBC2)

A programme recorded during the course of a year at a Nottingham primary school examines changes in attitude of three children as they try to understand the concepts of area, length and weight.

"The Gambler", Dostoevsky (Saturday, 09.20 BBC2)

The course on "Risk" begins by showing the risks run by Dostoevsky when indulging in his passion for roulette. His widow is played by Dorothy Tutin, making her OU debut.

Why do we keep the law? (Saturday, 06.35 VHF3)

"Decision-making in Britain" continues with a topical discussion on the law as observed by the general public.

Water for Oxford (Sunday, 08.05 BBC1)

An investigation into the way calculations of a reservoir's capacity were made 20 years ago. Illustrates some problems of hydrological planning and the correlation of data.

Cézanne's "Bathers" (Sunday, 06.15 VHF3, Wednesday, 23.30 VHF4)

Why did the theme of the "Bathers" occupy such a prominent place in Cézanne's work, and why were his paintings so important to later artists?

Greece, 478-336 BC, The Theatre (Monday, 07.30 BBC1)

Discusses the seminal importance of drama to the Greeks and shows how closely it reflected the attitudes and events of the ancient societies.

Continuing education

Goethe Season (Saturday, 21.20 Radio 3)

Professor George Steiner presents his view of "Goethe, the many-sided man". Assesses the complex nature of the writer's character.

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Desmond Morris introduces six programmes intended to show how different humans are from all other species. This week he follows four people in their daily work, and shows how dress influences their attitudes to each other.



Jim Sweeney and Steve Steen of "CBTV14", reviewed left.

change tracing an emergency call whilst the whippers: slowly died away. "Always give your name and address". The speed and ferocity of fire cannot be overstressed.

Much of the film is given over to warnings to businessmen to post fire prevention devices and information on escape. This is equally applicable to schools. The need for different fire-fighting methods for combustible, electrical and oil fires is also well demonstrated.

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Classified Advertisements

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Mathematics

Facing the facts

Dr William Cockcroft spells out the implications of his recent report

It is now nearly two months since the report *Mathematics Counts* (HMSO £5.75) was published. Members of the Committee of Inquiry had what they considered to be an exceptionally useful press conference and we are all grateful for the subsequent "good press" which we received both nationally and locally. I am told that the Department of Education and Science is already having to think about the size of the second print. The first 20,000 copies are selling well, and presumably being read; indeed it appears that one local authority has bought 1,000 copies for distribution to schools - other authorities please note!

Of course it is too early for decisive action to have taken place in the light of the report, but there is already a great deal of evidence of planning for future action. We know that the department is already considering what its first move should be if it is to play its role in implementing our suggestions. For their part, members of the committee have undertaken to fulfill over 100 speaking engagements up and down the country. We shall inevitably repeat ourselves, but if there are those who have a particular interest in any chapter or topic in the report, a letter to our secretary about a conference on the topic should produce a name from our membership. We all have full-time jobs to do, but we are also concerned that over three years part-time effort should not go to waste. Already many meetings have been organized, for example by Her Majesty's Inspectorate; but possibly more importantly groups of teachers, mathematics advisers, etc., supported by local education authorities, are already joining together to discuss future action. This *YES* Extra is itself evidence of a felt need to encourage all who are involved in the teaching of mathematics to react to the perceived needs of the schools.

Already I have been asked on several occasions, and not surprisingly, if there is some action which we believe to be more important than any other - something without which all our efforts might fail. Many of those who ask "hope, I suspect, that their worst fear will be confirmed - we never will get enough good teachers, will we; so how can your plans become a reality? Central government/local government will not be able to find the money, will they, so there will be no progress, will there?" We can all write that script! Let me pick out, from many "critical points", one which I personally stand out; it is concerned with what I see as the main force of our argument at secondary level. It is not by any means, but it has a logic of its own which makes me wish to emphasize it in an article such as this.

May I begin by harking back to the report to recall that in chapter 6, in discussing mathematics in the primary years, we draw attention to what we call the "seven year difference". We need that term to explain

the fact that there are tasks in mathematics which an "average" child can perform at the age of 11 but not at the age of 10, and there are some 14-year-olds who cannot do these tasks and some seven-year-olds who can. The tasks which have been noted in this connection are, we believe, significant indicators of levels of attainment.

When we moved on, in chapter 9, to consider mathematics in the secondary years, we had inevitably to acknowledge the existence of this seven year difference at the start of these years. At this level we noted that "... the mathematical understanding of some pupils who transfer to secondary school at 11 is likely already to be greater than that of some pupils who have just left school at 16. On the other hand, some of those who arrive at the same time may not, while at school, attain the understanding which some of their fellow 11-year-olds already possess."

To this must be added the undeniable fact that speed of learning is just as variable as levels of attainment between pupils, and a recognition that mathematics is an hierarchical subject - movement from one stage to another can only be successfully made when the first has been understood.

And where does this lead us? Surely the next stage of the argument becomes inevitable: if pupils are to gain confidence and "at-homeness" with that which is within their competence, we must recognize the range of competence we are likely to find in any group of pupils, and formulate curricula accordingly. The logic of the situation leads, in my view, inexorably to the need for what we have called the "differentiated curriculum".

And if the curriculum is to be differentiated, then so also must the associated examination syllabuses for those pupils who expect to take an examination at 16-plus. Here, I believe, comes my "critical point", for the nature of our system, I am driven inevitably to the conclusion that if the examination syllabuses at 16-plus do not have built into them the differentiated levels, with different levels of papers, then I fear that we may lose an opportunity to change secondary school mathematics for another generation.

I know there will be others who will argue that I attach too much importance to the examination system, but in practice I cannot do otherwise. It is there and it will not go away at present, so let it reflect the best of good sense and practice, for if it does, it will be our ally and not our dictator.

I would go further, and extend the argument beyond mathematics. Let us be more frank about the nature of our examining system, and try to teach parents what the jargon "norm referencing" and "criterion referencing" mean. Let us face openly, before the public questions such as "Is the system designed to fail 40 per cent of the pupils?" "If more enter, do overall standards drop?" It is simply not good enough to allow ignorance of how we examine to

persist on a large scale. Of course one can argue that the questions I have posed are not fair, or that they rest on misconceptions, but I believe you will find that they, or something like them, will be asked whenever one tries to debate our system with many outside the profession, and regrettably with quite a few in the profession. Clearing some of the air in the context of differentiated syllabuses for mathematics would, in my opinion, be helpful to children, parents and teachers alike, let alone the examining boards to whom my "critical point" is of vital importance; in this respect the action lies with the boards.

Dr W. H. Cockcroft is Vice Chancellor at the New University of Ulster.

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Assessing knowledge and understanding

Derek Foxman on the APU Practical Mathematics Tests

The initial series of five annual Assessment of Performance Unit mathematics surveys of 11- and 15-year-olds will be completed this year. In each survey at both age levels about 13,000 pupils take a written test paper consisting of about 50 short response items testing their knowledge and understanding of mathematical concepts and skills. Three separate sub-samples of over 1,000 pupils take respectively, a practical test, a written test of some problem solving skills and an attitude questionnaire.

The practical tests are unique in the assessment of mathematical understanding. The questions are presented orally to individual pupils in the sample by experienced teachers who have been nominated by their local authorities. These teachers are specially briefed for the task of test administration by the monitoring research team based at the NFER. Every pupil gets a test consisting of two or three topics from the dozen or so used in each survey, a topic being a series of questions about a mathematical theme.

As might be expected in a practical test, there have been topics on most of the main types of measures such as length, area, volume/capacity, mass and money since the first survey in 1978. Also included since the first survey have been tests of concepts such as symmetry, fractions, decimals and place value, making use of apparatus. In the first two surveys the questions tested mostly practical skills and the communication of mathematical ideas in words, graphs and symbols.

Since 1980 the testing of problem solving strategies has become a major feature of the practical tests. Several of the standard measures and concepts topics now include problem questions which can be solved by more than one method; pupils' ability to use these different methods is explored. There are also topics concerned with longer, more complex problems set in everyday or mathematical contexts. For example, 11-year-olds have been asked to organize a class outing using information derived from a map, from a train

timetable and café menus. They choose activities at stopping places and have to keep within a set budget. The 15-year-olds have attempted to design a kitchen and to calculate the cheapest route across the channel from information derived from tables and a map.

Problems in mathematical contexts have been based on exploring number patterns produced by arranging number rods, tiles or dominoes according to certain rules. There are accounts of the development of work on problem solving in the reports of the third primary and secondary surveys which are to be published this year. The published reports also contain a good deal of statistical and descriptive information on pupils' responses.

The development of practical mathematics tests was initiated during the Tests of Attainment in Mathematics in Schools studies which preceded the APU survey programme. These studies were conducted at the NFER by a team led by Dr Ray Sumner. When the APU monitoring team was appointed in 1977 the main problems to be dealt with in the practical surveys were: who were the testers to be, how were they to be briefed and how were the tests to be administered? The decision to recruit teachers as testers was quickly made, but the current procedures for briefing testers and for administering the tests were established during the third round of surveys in 1980.

The one-to-one interview enables the tester to interact with the pupil in order to (i) provide, as far as possible, a relaxed atmosphere during the testing; (ii) ensure that the pupil understands the questions; (iii) provide the pupil with every possibility for demonstrating what mathematics he or she can do; (iv) enable the tester to clarify what the pupil had done in response to a question and why it had been done. In pursuit of the third objective it was decided that prompting should be allowed while the fourth implied that the main focus of the assessment would be pupils' strategies and methods rather than their answers. Testers have a script for each

topic. Each question is initially put to a pupil as it is printed, and the tester records what the pupil says and does. Any interaction that follows depends on this initial response. It could include clarification of the task, prompting, and probing the nature of the response and the pupil's reason for making it. Since 1980 permitted prompts have been standardized and placed in the test script. Some flexibility is allowed, however, where pupils seem to require only a "nudge" to arrive at a solution.

The development and administration of test topics is a cyclic process which involves teachers at almost every stage. First ideas for a topic are tried out by members of the monitoring team in a few schools. Some of the teachers who have been testers in past surveys then try out second drafts of the scripts on their pupils and send back comments and suggestions for further amendments. Videotapes of pupils being interviewed by monitoring team members are then made using a script amended in the light of the teachers' comment. When the survey testers have been recruited they attend a 2½ day residential briefing at which each topic is discussed. Testers simulate test administration, taking turns to act the role of pupils of different abilities, while the videotapes are used to illustrate specific points.

A briefing takes place about five weeks before the survey. In the interval testers practise the administration with their own pupils. These practice scripts are scrutinized by the team so that further standardization of administration can take place. The APU Monitoring Services Unit at the NFER then provides each tester with an itinerary which involves them visiting 6 to 8 schools at the rate of one a day. At every school they test 5 to 6 pupils each of whom gets a different selection of topics.

The final phase in the cycle of development and administration is the debriefing which is a one-day conference held on a Saturday closely following the survey. Testers are asked to provide critiques of their training and of each test topic in the light of their experiences. The 200 or so teachers who have



The tests provide the pupil with every possibility for demonstrating the mathematics he or she can do

so far participated have enjoyed the work; the main reasons they have given are: (i) the situation provides an opportunity to get an idea of how individual pupils think; (ii) it is interesting to visit schools other than their own; (iii) the survey topics give them some stimulation and ideas.

Apart from providing stimulation and ideas are there uses which might be made of these tests other than in APU surveys? In their present form a topic takes between 10 and 30 minutes to administer to an individual pupil, the actual amount of time depending on the topic and the pupil. Thus length of time would appear to limit its usefulness. However, it would be quite possible to adapt a number of the topics for other assessment purposes.

The techniques which are involved in developing and administering a practical topic include establishing objectives, phrasing questions, knowing the range of possible responses, and developing prompts that "work".

The larger problem topics also involve skills of structuring the presentation of the problem and sequencing the questions asked. Several testers and their authorities have seen the potential in some of the features of the practical for DSEI work. A number have made videotapes of conversations with pupils about mathematical situations. Already one authority has used the monitoring team's briefing techniques of videotaped interviews and simulations as the basis of an in-house course.

The Cockcroft committee in its report stressed the importance of practical work at the secondary stage as well as primary, and for pupils of all levels of attainment. The experience of the APU surveys has provided many examples of its value to both pupils and teachers.

Derek Foxman is Principal Research Officer, at the NFER for the APU Maths Monitoring Project.



"Dodecahedra" as well as more ambitious models were made by using these. Some took this idea a stage further to replace square faces by 48 hexagons and one had a surprise after replacing triangular faces of a tetrahedron by "hills" made from three-quarter squares.

Another development has been the relative ease with which 3D tessellations can be investigated, even inadvertently in some cases. For example, try six squares at each vertex, or you may prefer to see whether truncated tetrahedra (four hexagons and four squares) can be made. In workshop sessions several possible 3D tessellations have arisen as people experimented, as have several flexing models with interesting and unexpected properties.

The material has been used successfully by six-year-olds through to adults. Once a vertex-rule has been decided upon, consciously or

not, there is a straightforward key to the final solid, or demonstration that there is no such solid. More complex rules are possible, varying from vertex to vertex and dismantled again. Well tried and dismantled again. The range of models that this material accesses, a fuller study of polyhedra and their properties, ways desirable, is now more possible. The mats may be joined with tape or a variety of glues. Croyder is recommended since it bonds easily and quickly when put under light heat pressure and can be peeled off again, when the mats are needed again. Sets of 400 mats (100 each of triangles, squares, pentagons and hexagons) cost £25 (including VAT) plus postage (£1.50 for 1 kit, plus 25p for each additional kit). An octagonal mat will be ready by Easter. Sets available from ATM, King's College, Queen Street, Derby DE1 3DA.

Adrian Pinel teaches at W. Sussex Institute of Higher Education.

Dripmat maths

by Adrian Pinel

Last Autumn I found a tray of hexagonal beer mats and ex-

perimented with ways of gluing them together to make polyhedra. Naturally, these were polyhedra with holes, but this added to their interest. Next two teachers on our Mathematics Retraining Course tried to make polyhedra according to the rules (a) triangular holes, (b) square holes, etc. On completing a 32-hedron whose holes were pentagons, one of

them said he was now going to make one with hexagonal holes. A few minutes later he was making connections between polyhedra and tessellations!

Further models were possible using square and circular mats, but the inability to combine different types was a real drawback. Before one in-service evening I spent over an hour cutting triangles, pentagons and hexagons from beer mats so that the group could attempt some of these combinations. Perhaps it was this, as much as the enthusiasm of these teachers who rapidly used up these shapes, which made me decide to try to have some special mats made. The result was an Association of Teachers of Mathematics sponsored order and 10,000 hexagons and 10,000 squares were ready for last Easter's ATM course at Lancaster. We sold out, so ATM agreed to extend the range of shapes and the quantity. Recently 30,000 of each of four designs were printed.

Teachers and children working with the mats seem more thoughtful and questioning in a mathematical way than I have observed in the making of polyhedra from nets. It seems as if the relative ease and speed of construction, combined with the chance to change your mind at any stage, frees the maker to "think as he makes" or to invent a rule and try it out. Rules like "each pentagon must be surrounded with hexagons" and "each vertex must have one pentagon and two hexagons" are seen to create the same model. Questions arise as to how large the model will become for a given vertex-rule. This may lead to angle-sums and the relationship with plane tessellations. Triangles were cut from hexagons then by scoring and gluing pentagonal valleys or hills were formed.

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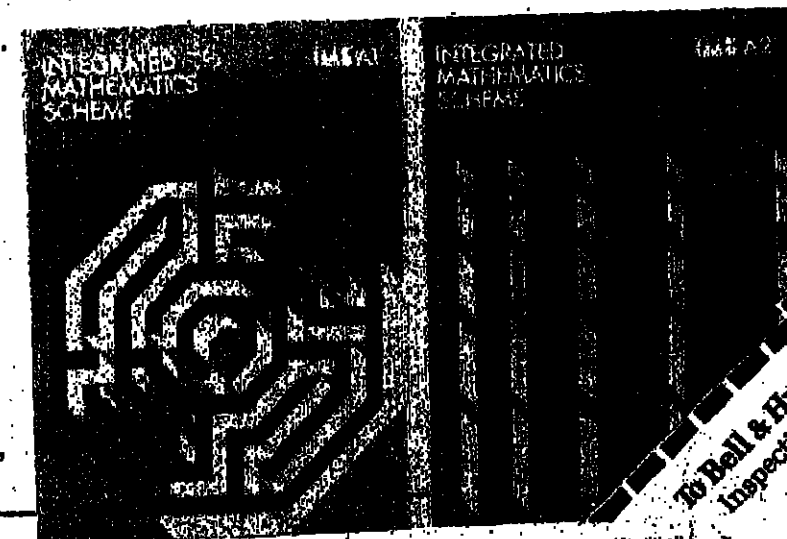
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UTP

extra The generative approach

By David Kent

After several years teaching mathematics, two observations seem to be fixed permanently in my field of vision. The first is that every child is capable of functioning as a mathematician at a personally significant level; the second is that a school can be an enormous sink for human energy. What some of my colleagues and I have called "the generative approach" to teaching mathematics is really a style of working aimed at simultaneously providing all children with an opportunity to act as a mathematician; while seeking to make the classroom a source of human energy rather than a dissipator. The whole emphasis of the generative approach is that we seek to generate energy and enthusiasm for mathematical learning.

What I am going to do now is describe two recent sessions of the generative approach given in school.

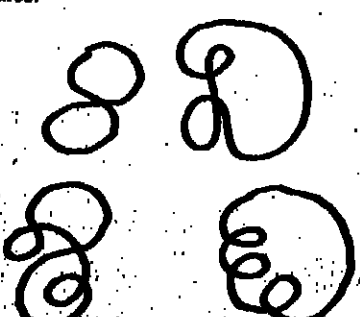
A cold Friday afternoon lesson in a large dining area overlooking a snow clad playground is perhaps not the most inspiring time or setting for a large group session. What we mean by a large group session is all 140 second years assembled together for the lesson. There is an obvious need to calm the children down, stop their thoughts drifting back to the lunchtime snow-ball fight, chip-buttie, bit of minor mischief or whatever. Usually the calming process is simple enough, a loud voice, accusing finger right pointed, a smiling face and quick "thank you" have generally proved sufficient.

A simple "closed doodle" is drawn on the blackboard



and on the pieces of scrap paper provided the children are all invited to draw a few closed doodles of their own. As they are doing so we walk among them, five teachers in all, with the aim of selecting a few doodles.

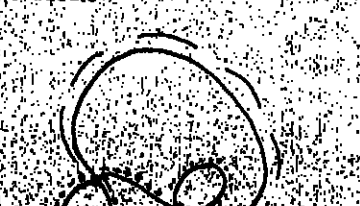
"Stuart", a voice breaks the general hum, "could you please come up and draw your first doodle on the board". That request is repeated to another four youngsters so that the board is covered with the four doodles.



There would have been a fifth but Kent's doodle defied any attempts to be copied. We hope that the lesson in keeping things simple was shared by all.

"There is no real mathematics in just drawing a doodle", they are told, "but we can alter that". It has been suggested to you before that the study of mathematics is really about the quest for the invariant under a set of transformations. That is what we shall be attempting in this situation.

They are then introduced to the words "crossover", "arc" and "region" as applied to a doodle, with the doodle



having crossovers (c) = 2, arcs (a) = 4 and regions (r) = 3. Only arc is defined as being "any line of a doodle which starts on a crossover and finishes on a crossover."

"There is a relationship between the number of crossovers, arcs and regions which is invariant of the shape of the doodle. Your job this afternoon will be to try to work out what that relationship is."

It would be easy now to just let the children get on with it, but I believe that what follows next is a very important part of the generative approach, for these are the few minutes when the whole class are pulled together on the common aim. Not every pair of eyes will have been riveted to the board, not every child's imagination will have been caught by the problem. So there is a need to draw as many into it as possible, using the group dynamic to stimulate interest, create enthusiasm, generate energy and clear up a few points perhaps.

"Look at the doodle Stuart drew, how many crossovers are there on it?" About half of their hands go into the air, only to be kindly ignored as Richard is singled out. "Well Richard," sheepishly he looks around for support unaware of what the question was having been too busy counting the snowflakes outside. "Look at it son, how many crossovers are there?"

Generally most children respond to such pressures, the rest of the class usually appreciate that it will be their turn to be in Richard's shoes one day. Richard has been caught out, the others do not wish that to happen to them, so concentration is lifted. Harsh on Richard it may seem, but mathematics is too important to be relegated to a position behind daydreaming and it would be ultimately harsher to allow him to let his young mind wander down aimless

paths, snow covered or otherwise. So for five or ten minutes the whole class look at the doodle drawn by their peers. In that time we draw up the table of results

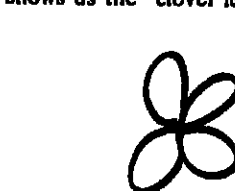
c	a	r
1	2	3
2	4	5
3	6	7
4	8	9
5	10	11

"What we ask you to do now is to draw some doodles of your own and see if you can work out what the relationship is. You may think you already know it, if you do test your idea on the doodles you draw."

The next 20 minutes are quite hectic as the children work enthusiastically on the problem. They have many ideas, one which seems to be the dominant one is that $a = 2c$ and $r = c + 1$, which works in many cases.

"Could you all be quiet, stop working and watch the board for a moment. Many people seem to be reporting the result $a = 2c$, which is then quoted. "When we get such a result we call it a 'conjecture', what we have to do is test to see if the conjecture is true or not. Could anyone show me a doodle, perhaps one they have drawn which shows that the conjecture is wrong?"

Sally's hand goes up and she shows us the "clover leaf" doodle of



with $c = 1$, $a = 4$ and $r = 4$

continued opposite

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The generative approach

There you are, the result so many of you have obtained does not work in this case, so get you heads down and look again please. Moments later Irene has made a very perceptive observation with the doodle:



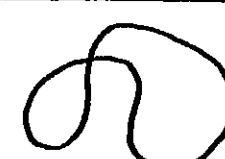
which she says has "no arcs because there are no crossovers, but it has one region. Along with Peter, Sylvia, Martin, Liam and other perceptive kids, Irene is one of the first to obtain the mathematical highlight case from John the following week.

The idea is that after the initial generative session the children will then spend the following few lessons working on the problem, writing up the result, doing some extension or otherwise occupied. They have a worksheet which suggests ideas, one of which is: "Can a doodle be drawn for which the result does not work?"

At the time of writing the sheet we all thought the answer to that was clearly "No". John thought otherwise. In true Lakatos fashion he suggested the weakness in our definition when he drew the doodle:



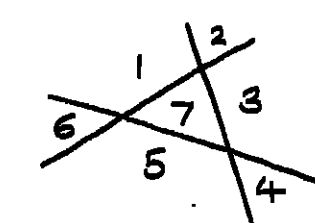
and said that the point P is where one arc is "just touching, not crossing" another. In his own words he said "I think this adds an extra region to a doodle like:



but does not give any extra crossovers or arcs."

So be it, with absolutely every generative session I have been involved in, some youngster has come up with something new, something which has generated a feeling of real excitement within me. It has not just been the known "bright" kids and I do not believe that the experience is the preserve of only a few.

Sometime after the closed doodle lesson we moved onto a similar investigation. (That the two sessions described here are investigations is not relevant, we can use the generative approach to teach factors, trigonometry and other more traditional topics.) This time the investigation was done in an ordinary classroom with my own 2(2) class only. The new investigation was about the maximum number of crossovers and regions of the plane we could make by drawing a number of straight lines:



for 3 lines we have:
max. no. of crossovers = 3
max. no. of regions = 7
After a couple of lessons on the topic many had reached the stage of tabulating their results as

no. of lines	max. no. of crossovers	max. no. of regions
1	0	2
2	1	3
3	3	7
4	6	11
5	10	16
6	15	22

It was again time to pull the whole class together to look at the table. "Anyone spotted any patterns, relationships about the numbers?" About a dozen eager hands indicated an enthusiastic response and many voices joined as one to indicate that to add the number of crossovers to its number of lines gave the next number of crossovers:

lines	crossovers
3	6
4	10
5	15

whilst many had seen that the number of crossovers was the sequence of triangular numbers.

"What about the number of regions, any observations?" Not a single hand rose. "Come on, look, open yourselves to it, you can get it."

There was for 2(2) an unusual silence which seemed to last a decade but was probably only a few seconds. Then Richard's hand shot up excitedly as he burst out, "if you add the regions to the lines below it gives you the next number of regions... it always works, look." He moved his finger to show

lines	regions
3	7
4	11
5	16

It was important to me, part of the fundamental philosophy behind our scheme of work that Richard, who can sit and count snowflakes, was pressurised to being involved in the same work as all his peers, and on this occasion it was he who produced the high quality result. For some others similar incidences have acted as the catalyst for a rise in confidence and seeming personal transformation of mathematical ability. What Richard makes of his moment is partly my responsibility, partly up to him and partly out of our hands. Certainly his elevated status in the eyes of his peers was a source of delight for him and great excitement for me.

Teaching mathematics in a comprehensive school is not easy. It can be a mixture of many things some of

which can dissipate energy thus leading to feelings of frustration and tension. Working on mathematical ideas with children can also be exciting and a source of great stimulation. When Carol told me recently that doing another investigation for homework was "more fun than doing the Rubik cube" I thought then that she was coming close to a statement which should form the kernel of the quest for the mathematical education of children.

All children have latent mathematical talents. The gauntlet has been thrown down for teachers to create situations in classrooms which encourage the growth of those talents.

David Kent is head of mathematics at St. Thomas More School, Derby.

Computer corner

Usborne Guide to Computers. By Brian Reffin Smith. Usborne £1.85. 86020 542 8. £3.50
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Illustrating Computers. By C Day and D Alcock. Pan Information £1.95. 330 26599 7.

The Usborne Guide to Computers is fairly described on its cover as a simple and colourful introduction for beginners. The author is tutor in the College of Art and there has been more thought given to presentation than content. £1.85 for 32 A4 pages in a soft cover is a high price to pay for a pleasing effect, but the book should attract top juniors and some lower secondary pupils.

Ron Condon, editor of the journal Informatics, has produced 96 pleasant pages of Introducing Computers. The book skims through history, hardware, applications and im-

plications. There is a very good chapter on communications which examination pupils might find useful. There are some unfortunate errors, particularly relating to programming languages. This is a daily tabloid level book which might well motivate some otherwise unmotivated CSE computer studies pupils. It deserves a place in any secondary school library. Illustrating Computers use the same technique that Alcock used to such good effect in Illustrating BASIC, but here the handwritten text and funny line drawings work less well. A more serious problem with the book is its emphasis on the inside of the machine and mainframe computing. Anyone using a micro-computer will be confused by the descriptions of compiling and word oriented machines. The book is definitely not for beginners and seems most suitable for pupils following computers studies syllabuses which are furthest from the 16+ National Criteria.

Paul McGee

smp 7-13

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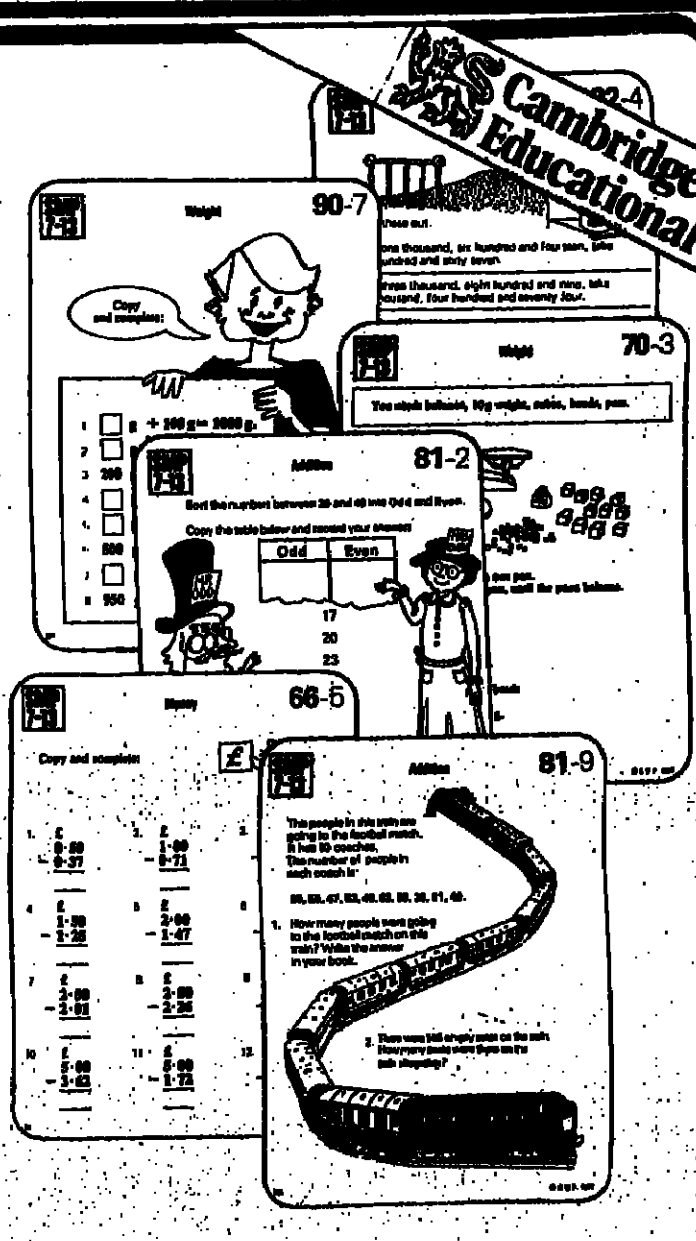
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- New Inspection Booklet in preparation. This shows how the course develops, the work it covers and what apparatus is needed. Sample cards are included so that teachers can see what the finished product looks like. If you would like a copy, please complete the form below.

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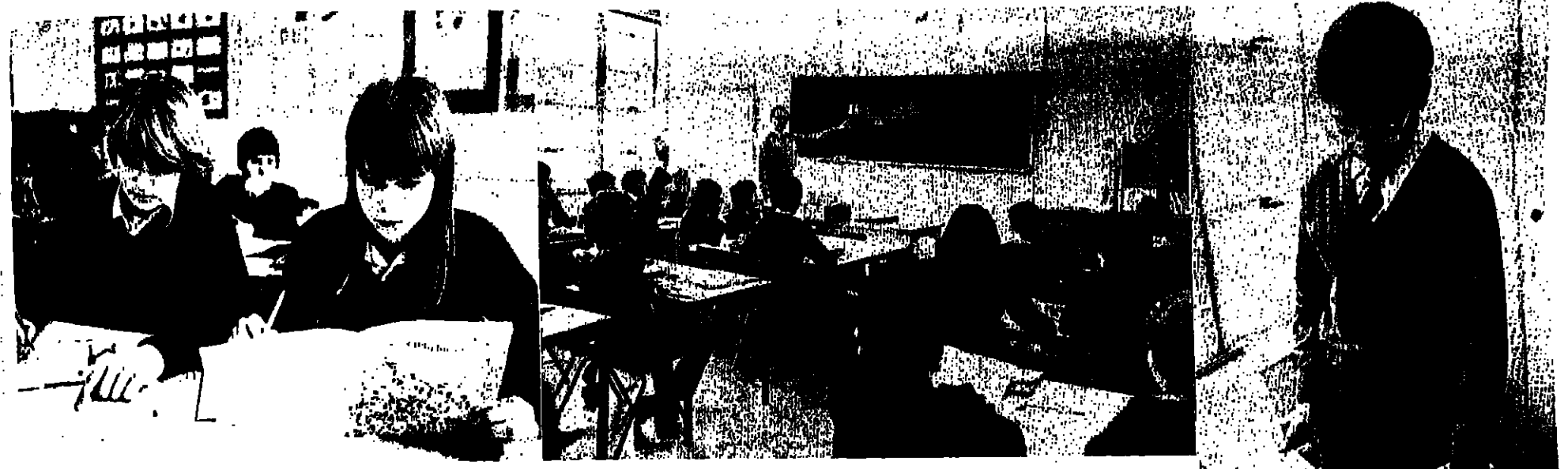


CAMBRIDGE UNIVERSITY PRESS

26 March 1982 No. 17

smp news

In this issue: Simple-to-operate SMP A-level software package venture



Planning for a change of course?

Secondary schools wanting to change to a different mathematics scheme now have a major new course to consider, SMP 11-16. The first material - January 1983 for delivery to schools before the end of the 1982-1983 financial year. This means that any school planning to allocate some of this April's capital to a new course should seriously consider SMP 11-16 before making a decision. SMP 11-16 which is published by Cambridge University Press has been developed in response to demand from teachers for a course which will truly offer for the majority of secondary school pupils. Most of its authors are drawn from experienced schools and are experienced in teaching a wide ability range. Before being revised for publication SMP 11-16 material, goes through a pilot phase which involves over forty testing schools together reflecting a wide variety of environments, intakes and teaching styles. Already the course is proving highly successful: pilot schools report that interest in mathematics and the pupils' sense of achievement have never been higher.

mathematics can be applied to real life. Equally, plenty of practice is given with appropriate techniques. The first two years' work is divided into four successive 'levels'. Because the course caters for a wide ability range some pupils may only cover levels 1 and 2 in their first two years whilst more able pupils may by-pass many of the level 1 booklets and will reach level 4. Extension booklets, providing more challenging work, supplement levels 2, 3 and 4.

Revision reminders

Answers to the booklets are themselves in booklet form. Review booklets - two for each level and one for the extension material in each level - are available and contain revision reminders and supplementary exercises. A teacher's booklet is provided for each level describing the structure of the course and ways of using it, and containing the answers to the review material.

The role of the calculator has been recognised and work exploring its use is included from the outset. Activities involving worksheets and inexpensive apparatus are also part of the course.

The material to be published in January 1983 comprises level 1, level 2 and the level 2 extension material. Towards the end of 1983 level 3 will appear, along with its extension material, and level 4 plus extension will be published in 1984.

SMP News is carrying a series of articles, each on a particular topic area

Most of the SMP 11-16 booklets are designed to be suitable for pupils working individually (above left); some were written with scope for group activity in mind and many teachers are discovering that certain topics benefit from a class discussion approach (above). An aim of the authors is to give children a sense of responsibility in handling resources. A pupil (above right) prepares for work by collecting the simple apparatus named in a 'what you need' list at the front of his latest booklet. A straightforward and cheap home-made filing system (right) ensures that the booklets are kept in the correct order.

Photographs: Tim Thomas

within the new course. The first of these, by Spencer Instone, appeared in the previous issue of SMP News and described the approach to algebra in the early material (offprints are available free of charge from the SMP office). On page 2 of this issue the series continues with an account, by Eric Gower, of some of the aims behind the geometry material in the course. Future articles will describe the approaches to graphs, number and statistics.

The SMP office already receives many letters from schools which have heard

about SMP 11-16, perhaps through SMP News or because a nearby school is testing the draft material. On page 3 some of the questions most frequently asked by teachers are answered and a reply form is provided for those who want to be sent further information as it becomes available.

The SMP will gladly reply to specific inquiries about SMP 11-16; the address to write to is given on page 4 of this insert. However it is not possible to supply copies - not even single sample copies - of the draft material.

Please pull out these pages for circulation among the mathematics department. Correspondence about SMP News should be addressed to the SMP and not to the TES.

extra Mechanical devices

Paul Harling on using calculators in infant and first school mathematics

At first sight the use of electronic calculators in the infant or first school classroom would appear to be contrary to all the accepted principles of early childhood education in mathematics. Piaget's work, which must be regarded as fundamental to all modern mathematics teaching, refers to the ages between two and 11 as the period of "concrete operations", which would seem to imply that there can be no place in the first school for mechanical devices like electronic calculators. I disagree.

The point is that the "concrete stage" is not fixed and static but a period of development in which changes occur in the child, and during which the child becomes increasingly independent of his immediate environment and of actually seeing and touching things. The "actual" things are gradually replaced by images of things, and such imagery is quite well developed by the latter part of the infant and first school years. By careful use of electronic calculators in the classroom this development can be enhanced and strengthened.

Perusal of a range of the suggested schemes of work for infant and first schools will show the remarkable similarity of types of desired experiences of number which are to be found. Many of these experiences are related to various types of understanding. But likewise many of them can be shown and manipulated understanding. But likewise many of them can be shown and manipulated on a hand-held calculator to provide an extension and reinforcement of the "concrete" introduction, and to begin to show numbers in a more abstract situation. Far from making children lazy about learning number concepts and arithmetical operations careful use of a calculator will stimulate and aid the development of mathematical skill and understanding.

The provision and use of calculators is not, and never will be, a substitute for understanding in mathematics. It is simply another approach to the development of that understanding. A definitive programme for calculator use in infant and first schools is undesirable, if not impossible, because of the unique needs of each class, teacher and child, but some positive suggestions can be made.

Choosing Calculators: Always choose calculators which are suitable for the age group. (TES 13.3.81.)

Group Size: Always use electronic calculators initially with small groups or individual children, never the whole class.

Teachers: Always ensure that the teachers and helpers involved are familiar with the capabilities and limitations of the available calculators. Do not ask children to do things which you cannot do yourself.

Introduction: Always begin with sufficient "play" time with the calculator so that the child can explore ways to fill the display, at first randomly and later systematically; and so that he can familiarize himself with the keys, some marked with known symbols, and others which are unknown but which have significant effects on the display (like C, which clears the entry and leaves 0). Encourage children to talk freely about what they are doing and what they can see. The calculator must not be seen as a threat and should not be a cause of anxiety. It is merely a tool, not an end in itself.

Basic Rule: Establish the simple rules of calculator operation as matters of automatic routine. That is, always press C to clear the calculator before starting; always press an operation key + x - ÷ between the numbers; and always press = to show an answer in the display.

Recognition of numerals and use of correct/appropriate vocabulary: Children should be able to "read" numerals in any sort of print or handwriting, or calculator/computer display style. Devise tracings, matching games and flash cards in various styles. Treat the calculator form as a normal one.

Ordering sets of objects or numbers by size and position: The calculator display can show left-right spatial relationships and can show up to 8 digits in any order. Simple cards can be devised to make use of this facility.

Counting the number of items in a set: One-to-one matching of the item with + 1 on the calculator. The total is achieved by pressing =.

Addition bonds at various levels; language, practical experience and recording: a) Different forms of reading/recording an "addition" calculation can be practised from a work card without need to worry about the actual numbers involved; e.g. all the following forms will be keyed into the calculator in the same way: (viz. 1 + 5 =. Read the display) 1. 1 plus 5 are, 1 and 5 is, 1 and 5 are the same as, + 5 equals, the sum (total) of 1 and 5 is, (1.5) ±.

b) "Forward and Check". At various stages in first school mathematics children will be "calculating" or "estimating" in their heads, with paper and pencil, and by using structural apparatus. Each is a "check" of the accuracy of the others. The electronic calculator provides an almost infallible final check. You can be assured that 99% of children will not cheat. They like the immediacy of the check which can stop them repeating mistakes.

Number Lines/tracks: The calculator is ideal for generating sequences of numbers. By pressing + and the desired number the calculator will "count on" or "count back" and display the next number for the child to record in writing. It is equally useful for "counting" in ones, tens, even numbers or odd numbers, to produce desired patterns and sequences.

If the calculator has an automatic constant facility the process is much more rapid and can encourage generalisations beyond the child's usual "paper and pencil" capacity. In this way more realistic numbers can be easily handled, when mathematical concepts are applied to real world situations.

Commutative and associative properties of addition: The commutative rule is that a + b = b + a. The associative rule is that (a + b) + c = (a + c) + b = (b + c) + a. The ability of a calculator to check the validity of these "rules" for addition is clear. Not only can a child check the basic ones given to him in a work sheet, but he can generate and check numbers beyond his normal ability, especially important with the rather tedious associative rule.

Subtraction of numbers at various levels; language, practical experi-

ence, recording: a) Similar to the possibilities in item 4. Different forms of reading/recording "subtractions" can be practised without need to worry about the numbers. Work cards using "take away", "minus", "difference between" and so on can be designed. b) The calculator can now be used to illustrate and check "greater than" and "less than". It can be used as a general computational aid for a child to check forecasts or estimates.

Non-commutative and non-associative properties of subtraction: a - b ≠ b - a (a - b) - c ≠ (b - c) - a (c - a) - b.

As before, the calculator provides a rapid confirmation of these facts and allows the rapid generation of additional examples.

Relationships between subtraction and addition: e.g. 6 - 2 = 4; 4 + 2 = 6.

A work sheet can be set up to read: Fill the boxes with the numbers you see in the display. 6 - 2 = □ + 2 = □

4 + 3 = □ 3 + 4 = □ Can you make up some more like these?

Box arithmetic: Such examples as □ + 2 = 7 + 1 can be set out. The calculator will "hold" the answer on one side in the display and encourage a "visual", but mental solution of the equation.

Place value: The concept of place value is absolutely crucial to all later number work. The calculator is very important here because the place value of each numeral is always correct and provides an immediate check.

For example, a) Counting on 5 using the calculator: 5 + 1 + 1 + 1 + 1 =. The display will read 10. This can be done with any number, successively adding 1.

b) If a child has tended to use twenty two as, for example 202 is use of the calculator with encouragement to say twenty-two is 20 + 2 will help because the machine will always give the correct response of 22 in the display. Any number can be broken down in this way and the place value clarified.

c) Consider the equation 14 - 10 = 4. When this is keyed in to the calculator up to the = the fact that the figure in the units column is unaffected is emphasised by the speed of response of the calculator.

Multiplication and division of number; language, practical experience and recording: This can be done with as in item 4 to stress the language used. Multiplication as repeated addition or division as repeated subtraction may be clarified by use of the constant facility or repeated operation of the key. A calculator can therefore "count on" or "count back" in 2s, 5s, and 10s.

Commutative and associative aspects of multiplication and non-commutative aspects of division: Items 6 and 8.

Relationships between multiplication and division: See item 9. Efforts to avoid being pedantic plus shortage of space has restricted the statements of the wider possibilities for using calculators but I believe these few "hints" must have set you thinking. As already stated, attempts to define the use of calculators in first schools is a futile exercise.

What is clear, however, is that calculators are here to stay and are a distinct part of the lives of all children, however young. I believe now, be important that schools begin now, and with the youngest children, to integrate the use of calculators into their mathematical schemes of work. Their potential is still, hardly touched and it is you as skilled teachers who hold the key to the future.

Paul Harling is headmaster of All Saints' CE School, Chorley, Lancs.

Heinemann Educational Books for Mathematics

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This third edition has been designed to cover the new syllabuses of the G.C.E. Boards that aim to bring together modern and traditional approaches, such as the London Syllabus B, the Cambridge syllabus A and B, and the J.M.B. new syllabus. This edition contains chapters on probability, mappings, relations and functions, matrices and vectors. The material retained from earlier editions has been revised and in many places rewritten so that, for example, the calculus tests understanding of the ideas of calculus rather than the ability to carry out correctly very heavy algebraic manipulation, and the geometry uses vector methods where appropriate. £4.95

Heinemann Educational Books

There is a considerable need for in-service training courses in the teaching of Statistics, not only for mathematics teachers but also for teachers of other subjects.

There is need for the provision of further teaching materials which will emphasise a practical approach to the teaching of statistics.

FOULSHAM publish an ideal practical reference book: TEACHING STATISTICS 11-16

A Teacher's Handbook

by THE SCHOOLS COUNCIL PROJECT ON STATISTICAL EDUCATION

FOULSHAM EDUCATIONAL

100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200

Geometry in SMP 11-16

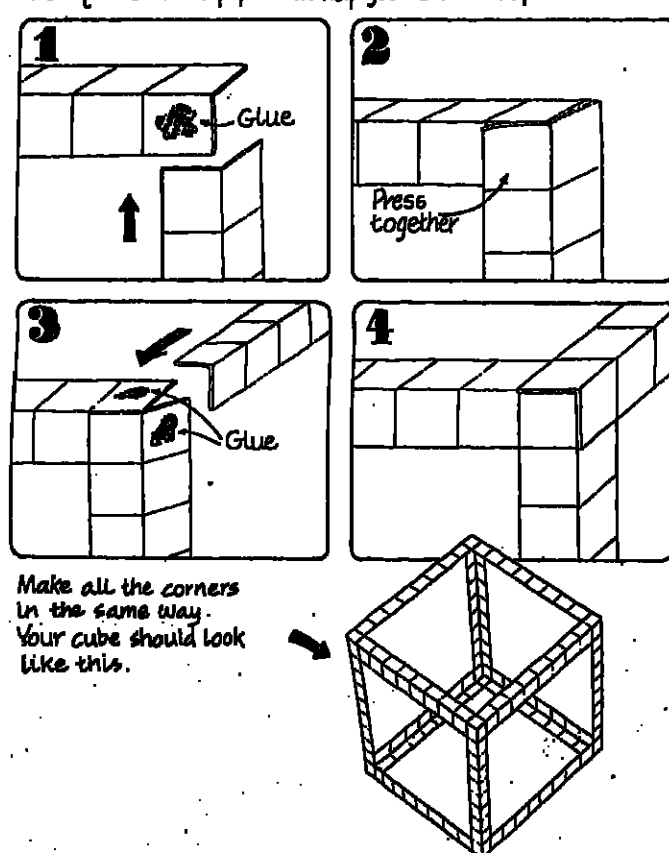
In this, the second of a series of articles by SMP 11-16 writers, Eric Gower argues that a geometry course should foster in pupils skills which are genuinely spatial. The new material contains fresh approaches to familiar geometrical topics; but the illustrations he has chosen here (reduced in size and lacking their colour) focus on the work on three dimensions to show how the writers have sought to make interesting and accessible a topic which has frequently caused anxiety for pupil and teacher alike.

Professor Erno Rubik has probably done more for popular geometry education than any other single person since Euclid. With one ingenious device, the Magic Cube, he has demonstrated that spatial problems and relationships have a compelling attraction to many people of widely differing ages, experience and mathematical expertise. Despite the fact that it appears to be the least well taught, the most misunderstood and probably the worst examined area of the mathematics curriculum, interest in the Cube, the Snake and the Pyramid suggest that geometry has hidden educational potential.

Well before the Cube, however, those planning the geometry content of SMP 11-16 were convinced that geometry had a major role to play in the mathematics education of secondary school pupils. Writers of previous materials, both within and without the SMP, had also seen geometry as highly significant. There were a lot of established approaches to choose from: Euclid, transformations, vectors, coordinates and so on. There were more or less successful examples of courses and projects which had adopted these and various unnamed hybrids as their main approach to geometry. And yet we felt that, despite all the developments over the past two decades, the essential spirit of geometry largely eluded both pupils and teachers. It was not difficult to find pupils who had a basic grasp of transformations, for instance, to whom working in three dimensions was a mystery; pupils who had a range of theorems and proofs at their disposal who could not make a start on a simple perspective drawing or pupils who could manipulate vectors but could make little sense of map reading. And it was certainly not difficult to find teachers for whom geometry was a *bête noire*.

What were we going to do about this? How could we back up our feelings about the nature of geometry with suitable material? How would our approach differ from previous SMP texts and materials? After much discussion and consultation we made three decisions which guided us in our task. First, we decided to call our strand of the course 'space', rather than 'geometry'. We felt the term helped to make it clear that we were interested in developing awareness of spatial ideas, rather than embracing one particular approach to geometry or simply amassing facts and theoretical techniques. Secondly, we set out to base the development on concrete experiences and to put the work into meaningful contexts. We were alarmed at the rate at which many approaches to the subject proceed to higher and higher levels of abstraction, ignoring the continuing need of most pupils (and their teachers) to relate geometrical ideas very strongly to their perceptions of the real world. Thirdly, we wanted to try to ensure that each topic had meaning for pupils when it was first met rather than only at some later stage when more advanced ideas had been incorporated. For example, most treatments of iso-

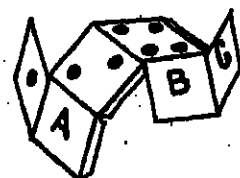
Here is how to make a corner. You stick 3 strips together. The squares on the paper will help you line them up.



B8 Look at this dice cut-out.

Which number goes on

- (a) face A
- (b) face B
- (c) face C



A5 Make this block.

Take this shape away.

Draw the shape which is left.



At an early stage pupils make framework models, such as the cube (above left) and answer simple questions about their properties. Eventually questions requiring a higher level of visualisation (left) are asked. The ability to draw and interpret two dimensional representations of three-dimensional objects is developed in easy steps beginning with drawings on square and isometric 'spotty paper' (above); making a model house (right) and identifying the angle from which each of a number of views is taken helps prepare the pupil for visualisation problems (above right) for which no 'props' are available.

Photographs: Tim Thomas

metries only finally make sense if ideas of groups are available. Most pupils do not get this far and for them the isometries are left without significance or power. We felt that we needed to consider afresh even the most basic and familiar geometry topics. It is often assumed that children have had sufficient practical experience of crucial geometrical ideas at primary school and that the role of the secondary school is simply to build on these foundations. And yet we continue to find youngsters of eleven or twelve who are considered to be quite able at mathematics who have a range of area formulae at their disposal, presumably learned at primary school level, but who are at a loss to estimate the area of an irregular shape printed on the page. And we find pupils in their early secondary years who know what the angle sum of a triangle is but who cannot measure angles confidently or judge by eye which of a group of angles is the largest. We believe that the necessary practical experiences of measurement, rightly introduced in primary school, have often been abandoned too early at secondary level in favour of formal manipulation of number and symbol.

We have aimed to redress the balance by including practical methods, using simple materials and instruments. In the course, and our ideas have recently been endorsed by the Cockcroft Report which calls for the teaching of measurement to be based at all stages on extensive practical work, including the use of a variety of measuring instruments. In the case of angle measurement, we have designed a new instrument which we believe will convey the basic ideas involved more readily.

So, the familiar topics of area, angle, scale drawing and pattern are well covered. But in this article I have chosen to illustrate the work on three dimensions to show how some of our ideas for developing spatial awareness work in practice.

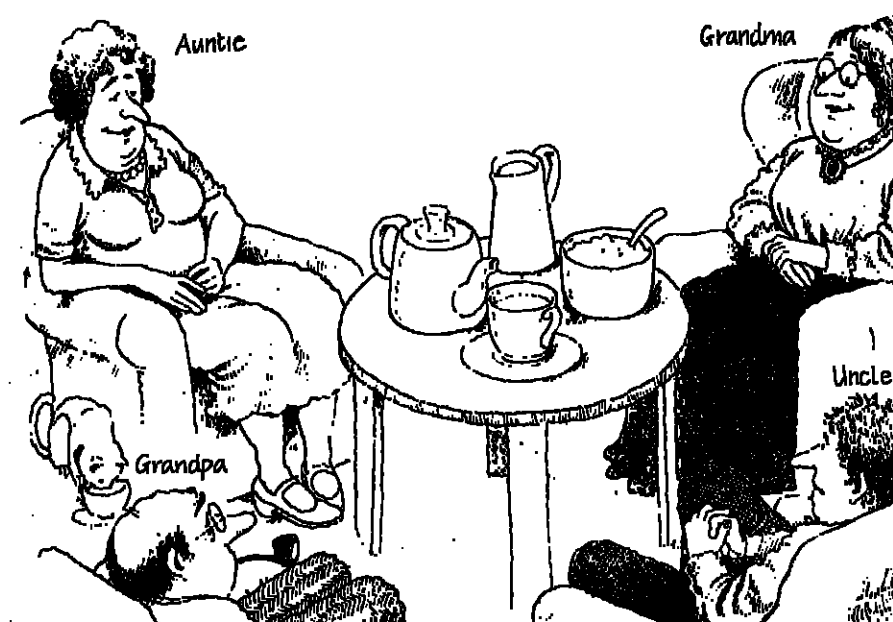
At the earliest stage pupils make a variety of 'framework' models: questions about them draw attention to their properties and later, questions requiring visualisation (the dice example) are asked. Children are shown ways of representing simple three-dimensional objects on paper and given practice in interpreting such representations - including plan and elevation. Interesting work of the 'whole view is this?' kind is included

and extension work for more able pupils contains an introduction to perspective.

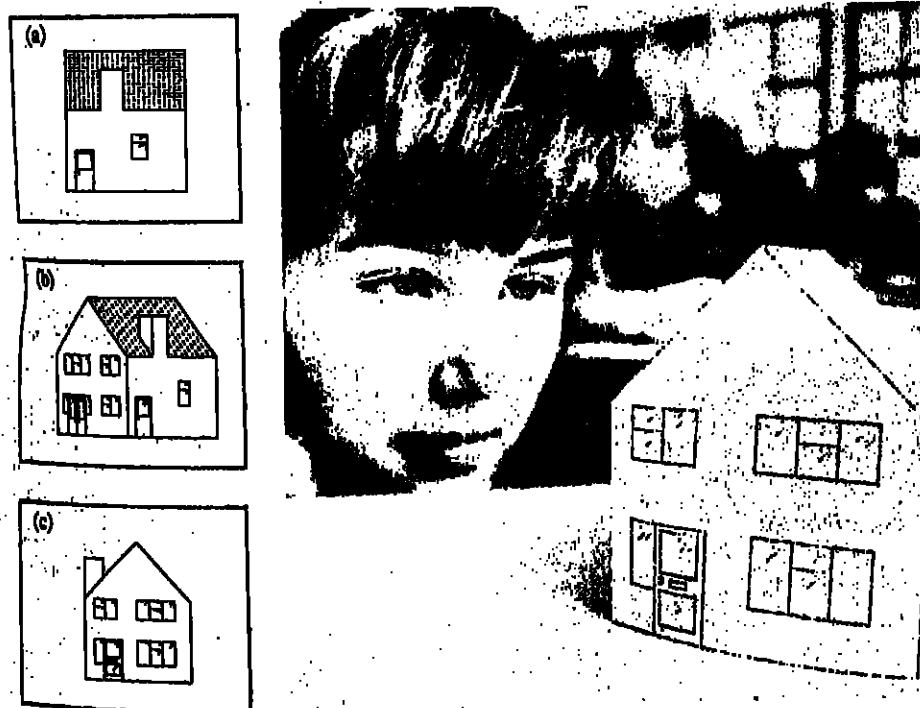
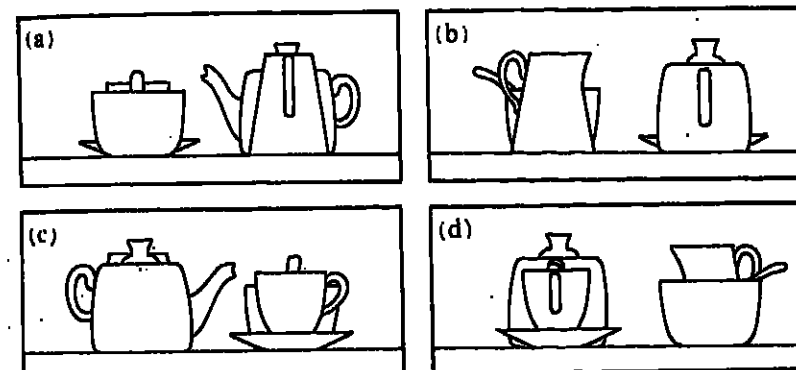
We have not sought to make transformation geometry the central feature of our work. But the ideas of reflection, rotation, translation and enlargement, are encountered early on and are developed as far as they are meaningful. There is a lot of material which seeks to make the ideas of symmetry, accessible and useful.

Some pupils will eventually acquire algebraic tools which will provide a natural means of symbolising their developing spatial ideas. But there will not be an attempt to draw algebraic and geometrical strands together into a monolithic system for all pupils. As W. W. Sawyer has commented on the having 'so many tools for the discussion of geometrical problems - Euclid, transformations, coordinates, matrices, calculus: ... It is noticeable, he wrote, 'that no one of these is the magic key which unlocks all doors: an eclectic approach seems in order.'

We feel that such an approach is desirable for most pupils and hope that the space strand in SMP 11-16 will provide it.



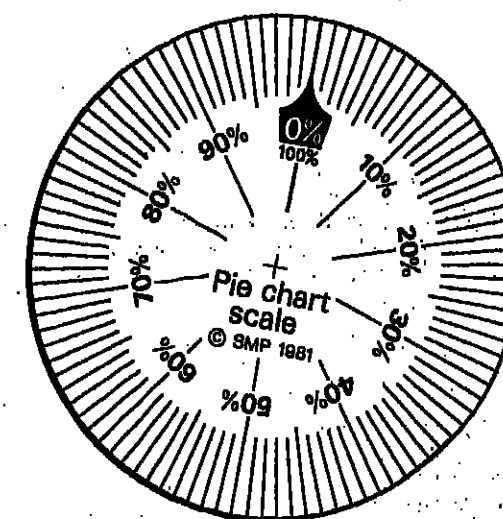
C1 Who sees each of these views of the tea-set?



A new teaching aid from the School Mathematics Project

SMP pie chart scale

- For drawing pie charts or reading off percentages without the need for calculation
- Quick and simple to use
- Suitable for all ages and abilities
- Easy-to-read scale on durable clear plastic
- Many uses in mathematics teaching and in statistics, geography and social studies classes too



Special pre-publication offer

The SMP pie chart scale has been developed to accompany SMP 11-16 and will be available as an item of course-material when the course is published by Cambridge University Press next year. But because of its wide range of uses the SMP is making the pie chart scale available now at a special pre-publication price of £1.20 (+£0.18 VAT) per pack of 10. Please add £0.30 to any size of order for postage and packing. Send cheque (payable to 'SMP apparatus') with order, or official school order to Pie chart scale offer (N), SMP Office, Westfield College, Kidderpore Avenue, London NW3 7ST.

Ten questions about the new course

Is it a revised version of the existing SMP books?

No. SMP 11-16 is an entirely new course with a flavour all of its own. Each topic included has been judged on its merits as part of a progression of worthwhile mathematical tasks.

Will teachers need to acquire expertise in new areas of mathematics?

No. In the 'first round' of curriculum innovation many new topics were introduced (e.g. sets, transformation geometry). In SMP 11-16 the innovation is in a different direction, towards relating mathematics to the rest of experience. Some things have been dropped (set notation, number bases) and many of the new emphases have emerged from teachers' experiences of what children find difficult. Much of the material speaks for itself and the teacher's booklets contain straightforward practical advice and concise accounts of overall aims.

The new course sounds very interesting but has it been adequately tried out?

The material to be published in January 1983 has been in use in its draft form since 1980 in over forty testing schools. All types of schools are represented, most of them having comprehensive intakes. Teaching styles and methods of organisation differ from school to school, and these differences provide us with a good test of the course's flexibility. Schools report great enthusiasm on the part of the pupils; the detailed feedback provided has been used in revising the booklets for publication: so any school adopting SMP 11-16 can be sure of buying effective teaching material.

In a booklet scheme like this one how can pupils revise and consolidate what they've learnt?

This is the purpose of the review booklets, two for each level. As well as the review booklets we are providing review exercises in worksheet master form: they are ideal for use in class as revision 'checks' or can be used as a valuable homework resource.

Does the course make organisational demands on the teacher?

The teacher does need to be in control of a good deal of material. And keeping a record of pupils' progress is an important task. But testing schools report that the effort entailed is rewarded by the children's enthusiasm and sense of achievement.

Do we have to purchase a lot of disposable materials such as workbooks or pads of use-once-only worksheets?

No, none whatever. Pupils do their work in their exercise books or, where necessary, on squared or graph paper. Some worksheets are required but we provide a set of black-on-white copyright-free masters for these. A school needs to purchase one set of masters only and then reproduces the worksheets using its own reprographic means.

Will the course be expensive?

These days, setting up any mathematics course from scratch is a major undertaking for a school. The publishers are well aware of the present financial restrictions in schools and every effort has been made to keep the cost of SMP 11-16 down without impairing its quality. Furthermore, with a booklet scheme the pupil is handling a smaller part of the material at any one time, so we expect that the costs of replacement for wear and tear will be relatively low.

Do we have to buy one big package?

No. Great flexibility will be possible when ordering. SMP 11-16 has been carefully designed as a complete secondary mathematics course but a school can, if it wishes, start with a basic stock and add to it as time goes on, perhaps buying more of those booklets which get a lot of use. And schools wanting to use only parts of the course as an additional resource will not be prevented by the ordering arrangements from doing so.

So the course for the first two years is in booklet form. Does this mean booklets all the way to age 16?

No. Books become the main component from the third year onwards. But the books will still be attractively illustrated and have the same attention to layout and readability paid to them.

How can I find out more?

Fill in the reply form below and send it to the SMP office. In September we will send you a leaflet illustrating the material and inviting you to order a specimen pack of booklets.

Please send me further details of SMP 11-16 as they become available.

NAME (BLOCK CAPITALS)

ADDRESS

Does SMP A-level prepare students for university engineering courses?

Nigel Webb, head of the mathematics department at Oakham School, considers whether a syllabus which includes a wide range of applications caters adequately for one type of future specialist.

The SMP A-level was first introduced about fifteen years ago and has been taken at Oakham School for about twelve years. The syllabus has undergone minor changes during this period, covers more of the core proposed by the Standing Conference on University Entrance and the Council for National Academic Awards than any other existing syllabus and has been revised to include all of the agreed inter-board core. The course books have been substantially revised and updated recently, also.

The course is designed to provide a background of concepts and techniques appropriate to a wide range of users of mathematics. Many 16- and 18-year-olds, starting on sixth-form courses, are not sure of their career or of what they need to read at university: we believe it important to offer an A-level mathematics course which does not shut doors. At Oakham it is possible to take A-level mathematics with any other A-level subject and one consequence of the introduction of this course was a considerable increase in the number of students doing A-level mathematics alongside social science subjects or arts subjects as well as with the more traditional science subject combinations. The inclusion in the syllabus of a wide range of applications - probability, statistics, numerical methods, electricity, as well as mechanics - means that, compared with traditional syllabuses, the emphasis on mechanics, and particularly on statics, is reduced. It is mainly this breadth of syllabus, and some consequent reduced coverage in certain areas, which has led to queries about the suitability of the course as a basis for university engineering. Also there is an emphasis in the course on understanding and on problem-solving from first principles - at the cost, in some areas of the syllabus, of extended practice in manipulative techniques, as such.

Having read engineering at university myself, I feel that the course has special merits as a background to engineering which compensate for any deficiencies which an engineer might perceive: the introduction of numerical (computer) methods for dealing with problems involving calculus and equations is certainly appropriate to engineering in the 1980s; the introduction of vectors and matrices and the vectorial development of dynamics is

valuable background for modern engineering courses; and the adaptability of approach and the emphasis on understanding, encouraged by the coursework and the style of problems in the exercises, is potentially a major asset at university level.

Over the past twelve years, a lot of Oakham students have entered engineering courses and I have had ample opportunity to obtain feedback. In general, they tend to find the first year relatively tough from a mathematics point of view, lack of experience with analytical calculus techniques and with statics being the main sources of difficulty. In the second year however (earlier in some of the more modern engineering courses) they often comment on the benefit of having previously met the non-traditional topics mentioned above; 'Thank goodness', a former pupil once said, 'you taught us how to think and work from first principles'.

The experience at Oakham is evidently common among other schools taking SMP A-level. It is also common experience that students who have followed this and other similar syllabuses really do cope well with vectors etc., whereas their peers who lack this background find these new ideas very hard going. It should perhaps be added,

however, that a recent study into the mathematical education of engineers at school and university* found no evidence that students who had followed one type of A-level mathematics course performed consistently better or worse overall at university than students who had followed another type of course.

So I am satisfied that we are on the right track, but wherever possible, we do, at Oakham, supplement the course for would-be engineers with additional experience in calculus and mechanics, to make the transition to first year university easier.

Sometimes, in recent years, students have gained places on university engineering courses with D or E grades at A-level. Frankly, anyone starting an engineering course with the level of understanding of any A-level mathematics course implied by such grades is in for a hard time sooner or later. Those who achieve A or B grades and have the right motivation seem to find that they have a satisfactory background knowledge and a mental training which helps them to build on it.

* T J Harrod: *The Mathematical Education of Engineers at School and University*, Department of Engineering Science, University of Durham 1978.

Programs for SMP A-level by Spencer Instone

There is at present relatively little software (i.e. prepared programs) available which can be used to assist mathematics teaching. Furthermore, it has been pointed out to us that much of the limited amount of software which is available is of poor quality, with programs which are badly written, we wish to emphasise the need to produce programs which are not just "extras" but which can contribute to the main-stream mathematical work of the school.

These words from the Cookcroft Report identify an increasingly felt need and the SMP has already sought to help matters in a small way by clipping its toes into the software sea. A package of programs has been written specifically to help teachers demonstrate topics in the SMP A-level course to pupils. Each program is related to particular pages in the A-level books.

We have chosen initially only a few topics to see how useful programs of this type are as a classroom resource. Our first package includes programs to help in teaching the step-by-step solution of differential equations, the Newton-Raphson process to solve equations, the vector ratio theorem, Taylor approximations to a function and a number of programs to demonstrate various aspects of waves and circular functions.

The programs are intended to be simple to operate, even by a novice to computing, and are robust (we hope you won't get inexplicable messages appearing in the middle of your iteration); each has an explanatory note with it giving details of what pupils ought to do before seeing the demonstration. For teachers with programming experience there are notes on how to change the program if desired.

Whilst we have to charge for the media, no payment is required for the programs themselves. This must make them the best value-for-money around! Initially the programs are available only for Research Machines 380Zs with disks and high resolution graphics, but we hope that they may be available for other machines later. For those who have access to such luxury, the package is available through the CET Telesoftware scheme on Prestel (see page 2114) or for lesser mortals from either MUSE, Freeport, Bromsgrove, Worcestershire B61 7BR or The Computer Education Centre, Liverpool Polytechnic, Rodney House, 70 Mount Pleasant, Liverpool.

The cost of the media from either source is £4.00 if you have double-sided disk drives, £6.80 if you have only single-sided disk drives. These charges include postage and packing. Cheques should be made payable to 'MUSE' or 'The Computer Education Centre' respectively.

If you think you could contribute further programs to help teach SMP A-level please write to Spencer Instone, 59 Avenue Road, Leamington Spa CV31 3PF.

Addresses:

SMP Office
Westfield College
Kidderpore Avenue
London NW3 7ST

Cambridge University Press
The Edinburgh Building
Shaftesbury Road
Cambridge CB2 2RU

brief news

Problem Solver

Readers and their pupils with an appetite for mathematical problems and puzzles may find *Problem Solver*, a termly magazine, to their taste. If you would like a complimentary copy and a free newsletter containing full ordering details for current and past issues write, mentioning *SMP News* and enclosing a self-addressed A5 envelope stamped to the value of 12½p, to Rain Publications, 194 Goldhurst Terrace, London NW6.

ITeMS of Interest

Rain Publications are among the many contributors to the ITeMS catalogue. ITeMS (Ideas in the Teaching of Mathematics and Science) is an informal association of university tutors and others; the catalogue is designed to publicise occasional papers produced by members as well as providing ordering details for booklets of teaching suggestions, book lists and some materials for pupils. If you would like a single copy of the ITeMS catalogue send a stamped self-addressed A5 envelope plus one extra 12½p stamp to ITeMS, c/o F R Watson, Department of Education, University of Keele, Keele, Staffordshire ST5 5BG. If you require multiple copies send 15p per copy (plus postage to cover 40g per copy).

Science/mathematics booklets

A series of booklets on cooperation between science and mathematics teachers has recently been made available. The series arose out of a conference, held at Bielefeld in 1978, and the booklets have been produced by the Committee on the Teaching of Science of the International Council of Scientific Unions (ICSU-CTS) with financial assistance from UNESCO. They are edited by Alan Rogerson on behalf of ICSU-CTS and the International Commission on Mathematical Instruction. The first six titles are listed below; it is

hoped to produce further booklets in due course.

- 1 Functions and physics
- 2 Links between geography and mathematics
- 3 Our inheritance: common ground for the mathematics and biology teacher
- 4 Mathematics and chemistry
- 5 Mathematical modelling
- 6 Mathematical modelling with calculus

To receive the set of six booklets and a cheque for £5.00 (which includes postage), payable to 'The Association for Science Education', to The Publications Officer, The Association for Science Education, College Lane, Hatfield, Hertfordshire.

Examinations at 16 plus

Many teachers have enquired whether there will be an SMP scheme of examination available nationally when the new single system of examining comes in operation. It is too early to say how the SMP and other projects will fit into the new arrangements. However a group of examiners from the West Midlands CSE Board and from the SMP O-level team have developed a proposal for a system of papers to examine pupils in the O-level and CSE range, based on a number of syllabuses produced by an earlier SMP working party. The syllabuses have already been revised in the light of comments from schools and it is hoped to offer a joint O-level/CSE examination to schools in the Midlands in 1984.

The syllabuses, with specimen questions and papers, will be circulated to schools in the territory of the 'Midlands' group of boards later this term. Any school outside that area which would like to receive a copy of the documents should write to the SMP office enclosing a stamped addressed A5 envelope.

SMP CEE

The official examination syllabus for the SMP CEE examination is now published in the book of syllabuses for all CEE examinations administered by a consortium of GCE boards. Schools should note that the early draft syllabus issued in 1979 has been revised and the examination is set only on the published version, both as regards the Nucleus and Modules. Copies of the syllabus booklet are available from the Oxford & Cambridge Schools Examination Board, Elfield Way, Oxford OX2 8EP.

extra

Mathematics in Education and Industry schools projects

Report by Elizabeth Roebuck

At the AGM of the MEI on February 13, an exciting year of development culminated in the approval of new syllabuses for Additional Mathematics, Mathematics and Further Mathematics. On a wider front, progress was announced on the MEI at 16-plus, on a conference to be held at the University of Kent, and on further financial support from the School and Industry Committee of the Mathematical Association. The MEI continues to flourish, expand and develop, strengthening its ties with the schools, with its members and with its sponsors.

Distinctive qualities of the MEI examination scheme
1. There is a close and friendly collaboration between the teachers, who plan the syllabuses, and the examiners who set and mark the papers.

2. The contents of the syllabuses are regularly discussed with representatives from the universities, commerce and industry. This practice is considered vital for the children whose mathematical ceiling is the graded tests as well as for those going on to A level.

3. An attempt is made to involve the practical applications of a particular mathematical topic, hence the projects in Further Mathematics; some practical content in the graded tests; and some assessment on course work in Paper B of the 16-plus.

4. There is an attempt to pitch the questions at a level which is understandable and interesting for the children taking the papers.

5. The papers are planned so that the lowest mark for the middle

grade, ie at present Grade B at O level or Grade 3 at CSE, is pitched at about 65 per cent of the marks available.

6. In the 16-plus "paired papers", one is done without a calculator (Papers A and C), while the more applied sections (Papers B and D) involve the use of the calculator.

7. There is a demand for neatness and accuracy in the showing of all relevant working.

The Plans for the Low Attainer

The graded tests are to be taken once at a time, with a passmark in the region of 70 per cent. These are being planned in collaboration with the Test Development and Research Unit at Cambridge. We should welcome any schools who would like to take part in the preliminary stages. Please contact the chairman.*

The Plans for the 16-plus Papers

Two alternatives are being considered:

1. The papers will be taken two at a time.
Approximately 65 per cent: on Papers A and B would give Grade 6
on Papers B and C would give Grade 4
and on Papers C and D would give Grade 2.

The spread of the "in-between" grades is to be discussed. Paper A will contain short questions, all compulsory, on a limited syllabus. No calculators will be allowed. Paper B will contain short straightforward "applications", still on a limited syllabus. A calculator may be used. It will include an assessment on course and/or project work.

Paper C will contain straightforward questions on an extended syllabus. It will have a compulsory section, as well as some choice. No calculator is allowed.

Paper D will be on an extended syllabus, the questions will be longer and involve logical reasoning. They will be "applied" in nature and require the use of a calculator. This paper will have a compulsory section, as well as some choice.

2. Graded examinations throughout.

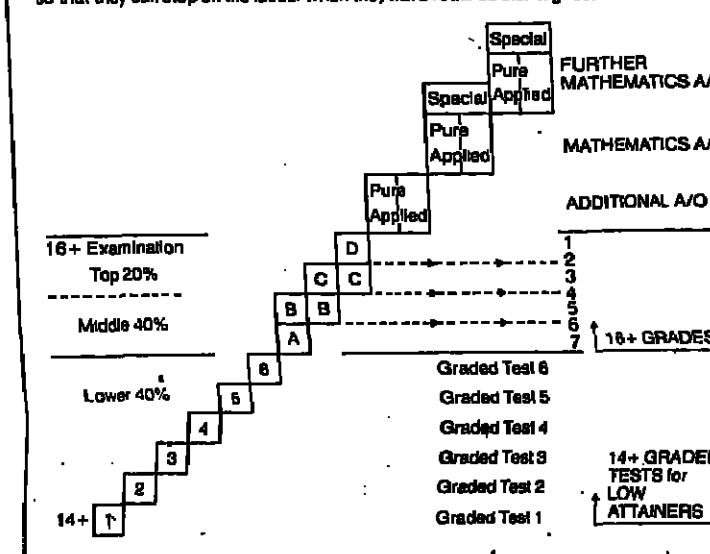
The present situation at 16-plus
There are a few CSE Mode III schemes in operation which could provide the basis for Papers A and B. It is hoped that these two papers will soon be available nationally. The MEI is keen to increase the number of children taking its examinations at this level. If you are interested in joining, contact the chairman. The MEI O level papers will provide the basis for Papers C and D, but they will have to be modified into a new pattern. This modification will follow the establishment of Papers A and B.

The present situation for the High Attainer at 16-plus

The MEI scheme contains an Additional mathematics examination for the "high attainer" at 16-plus. This exam serves two purposes:

1. For the children who go on to study mathematics at A level a) it provides a sound basis for pure mathematics, and b) it gives the "feel" of applied mathematics by the particular flavour of the questions.

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extra Is there a best method?

Michael Savage on teaching children how to subtract

It is quite natural for parents to try and help children with their learning problems. The 1967 Plowden Committee estimated that over 75% of parents help children with their reading.

When it comes to arithmetic, however, parental efforts to lend a helping hand are far less successful. In particular, many children find subtraction hard to master. If they are having difficulty with "32 take away 19" - then when they ask Mum or Dad for help, the result may well be confusion! Why is this so?

The reason is that, in education as elsewhere, fashions change. The way in which a parent was taught to subtract one number from another may be quite different from that taught to their offspring - in which case it is hardly surprising that neither can understand what the other is doing!

In this article we shall examine the various ways in which children are currently taught to subtract and ask the question "Is there a best method?"

Borrow and Pay Back

In order to discover how a group of adults were taught, an experiment was recently performed involving 40 guests at a party (ages 35 and over). Each was invited to do the following calculation, indicating clearly how they arrived at their answer

$$\begin{array}{r} 32 \\ -19 \\ \hline \end{array}$$

Thirty six of the guests argued along lines similar to the following: 2 take away 9 cannot be done, therefore we borrow 10. Now 12 take away 9 is 3. We must now pay back 10 and 3 take away 2 is 1. Answer 13;

$$\begin{array}{r} 32 \\ -19 \\ \hline 13 \end{array}$$

$$\begin{array}{r} 32 \\ -19 \\ \hline 13 \end{array}$$

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the "ten column" - thus making 2. One needs to recall that a subtraction sum remains unaltered when the same amount is added to both numbers. The correct way of referring to this method of doing subtraction is not "borrow and pay back" but equal addition.

The major advantage of borrowing and paying back is that it is relatively simple to teach and most children soon learn how to do subtraction calculations. They do not question what they are doing! Why should they! The method works and it all seems quite plausible. It never occurs to them that they have got the wrong idea - not indeed until it is pointed out to them. In passing we should perhaps note that "getting the wrong idea" or confusing one thing with another happens all the time. It is an integral part of our learning process and nothing to be ashamed of.

Decomposition

In teaching circles today, the method of borrowing and paying back is still taught but not to the same extent as in previous years. Many teachers no longer think it right to teach a method which children cannot fully understand. Instead, a method called decomposition has come into vogue. (A recent sample of 62 students reading mathematics at Leeds University showed that 35 were taught to borrow and pay back whilst 27 were taught decomposition.)

What then is decomposition? Essentially it is a method designed to overcome the deficiencies of the previous method; designed to enable children to understand precisely what they are doing. With reference to our earlier example; since 2 take away 9 cannot be done, an extra 10 is obtained in the units column by taking one ten from the tens column and decomposing it into 10 units. Therefore 3 tens becomes 2 tens and 2 units become 12 units. Alternatively one may think of 32 as 20 + 12. The number 19 remains unchanged. Consequently 12 take away 9 is 3 and 2 take away 1 leaves 1. Answer - 13.

$$\begin{array}{r} 32 \\ -19 \\ \hline 13 \end{array}$$

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$$\begin{array}{r} 32 \\ -19 \\ \hline 13 \end{array}$$

the technique which produces the extra "ten", so the question arises "What have we really achieved by introducing decomposition to replace the method of borrowing and paying back?"

With reference to the current teaching of subtraction in our primary and middle schools, we find the both of these two methods are taught each having its strengths and weaknesses.

Method 1:

Borrowing and paying back: It is a simple method to teach and to learn. Unfortunately pupils do not understand what they are doing - yet believe that they do!

Method 2:

Decomposition: A method which is easy to understand and to learn in many cases. Problems of understanding and "doing" arise in some special cases.

My reasons for writing this article are twofold. On the one hand there is a desire to bring before a wide audience information concerning the interesting and controversial nature of subtraction. Secondly it is important to generate a discussion of how since the choice before our teachers is not just heads or tails; method 1 or method 2. At least two other possibilities exist both of which are refinements of method 1.

Method 3:

The Method of Equal Addition: This method also has much to recommend it since the technique is essentially that of method 1. Now 2 take away 9 is not possible. Therefore we add 10 to the units column of the larger number thus making 12. We must also add 10 to the smaller number - but it is tens rather than the units column thus making 20.

The success of this method depends on whether children can really appreciate that adding 10 to each number leaves the calculation unchanged. Some teachers have their doubts.

Method 4:

Borrowing and paying back (technique first-explanation is better): Since the technique of borrowing and paying back is the simplest both to teach and to learn - why not teach it quite unashamedly? But once children have mastered the technique, perhaps by the age of 10-12 years then they are doing it the truth of what they are doing. It should then be explained to them precisely what is going on. In this way they would be "misled" only for a limited time - as until their minds are sufficiently mature to understand. Mastering the technique would come first followed by - when they are ready - an explanation of what they are really doing.

Such a teaching method as advocated in Method 4 is really no different to allowing very young children to think of God as a wise old man in the sky. Such imagery helps a child in its early stages and only later does the child come to appreciate a subtler human form (not today at least). Essentially what one is doing is a pre-perceiving one model by purpose. When the first has served its purpose, "Borrowing and paying back" will have served its purpose and the technique has been mastered and the real facts can then be revealed.

I was taught to borrow and pay back (and like others thought that I understood what I was doing). Later I favoured the method of decomposition - until became aware of the difficulties. Now, at this point in time and with all things considered, I find myself preferring Method 4 - borrow and pay back with a later explanation. Perhaps readers would like to write and say what they think.

Dr M. D. Savage is a lecturer in the School of Mathematics, University of Leeds.

extra Spreading fast and further

Susan Thomas reports on the Kent Maths Project

When the head of maths from our neighbourhood comprehensive called in on a KMP lesson at a local primary and asked the statutory "And who likes maths in this class?" he was greeted not to say astounded, to get a 100 per cent positive response. The Kent Maths Project, resource material for 9 to 16-year-olds published by Ward Lock in 1980, is possibly the best validated mathematics course in the country, and it just might be the most popular.

The scheme, a comprehensive bank of teaching material which allows every child to progress at his own pace, grew out of a chance visit to a programmed learning session at RAF Cranwell. It was a first experience of the method for Mr Bertram Banks, a Kent maths teacher who was so impressed that he immediately wrote "a simple programme on logs for the slow learners to use". To his consternation, the "slow" set grasped the subject more efficiently than the rest.

It was a salutary experience causing him to give a lot of thought to motivation and teacher/pupil relationships. "I realized that by making the teacher into a diagnostician and friend and by avoiding the point of origin of failure, we could prevent children from rushing into rationalizing a distaste for maths and closing the door on any future progress". It was a challenge which took up the rest of his teaching career.

At first he wrote all the material himself, trying it on his own class at the Ridgway School. Soon it was being used in nine Kent Schools and a teacher group was formed to identify concepts, write the material, test, approve or discard the work units and school trials with several age groups. Particular attention was paid to language and presentation (tape, work card, game or experiment) and

finally all the units were encapsulated in a complex, eight-level framework known as the Matrix.

After trials in ILEA came recognition by Kent Education Committee and sponsorship from the Schools Council for the L material for slow learners. KMP is now in use in over 200 Kent schools and spreading fast. On current form it may prove particularly useful to inner city schools where pupils are alienated by traditional methods.

"Commonly it is the special class teacher who introduces the scheme", says Mr Tony Larcombe, KMP Primary Coordinator and writer of the L material. "The rest of the staff are impressed by the improvement in classroom behaviour, performance and motivation and give it a try".

"Teachers in selective schools or top streams are often unaware that they teach an ability spread of three or four years in one class" Mr Banks says. "KMP is marvellous for the gifted child who might otherwise be stagnating", and he details young mathematicians who took O level at 13, loved every minute of it and did not have to hog the teacher's time.

Children start KMP when the entrance test shows that they are ready, usually in the third year of the junior school and enter the Matrix at any point. It is the teacher's responsibility to select a suitable set of tasks (geared to the slow or fast learner) from the material bank and the pupils responsible to work through it, consulting the teacher when in difficulty and marking the work himself. When each set of ten units is completed the teacher administers a test, helps the child with any problem areas and sets a new matrix to consolidate and advance the pupil's work.

Initially, many teachers have problems with the philosophical issues of children marking their work, moving



Many of the primary KMP schools use Fletcher as a starter maths course though most of the newer schemes do very well. Here a couple of lower juniors use a Bulmershe logic game.

around the room, working with a partner and perhaps most perturbing, demonstrating a wide range of learning and achievement. Once they have grasped the nettle, Mr Banks says, they mostly find that their pupils do not cheat, are keen to learn and that far from being unable to "know what everyone in the class is doing", they have a more precise knowledge of the children's mathematical knowledge than ever before. There is also anxiety that the whole teaching process has been taken out of their hands but in practice most KMP teachers use regu-

lar class or group lessons to overlearn basics and introduce new work.

Mr Vic Rouch, Head of Hadlow Primary School, was one of the early enthusiasts. "When we heard that KMP was going to open its doors to the juniors, we were there clamouring to be let in. I was perturbed by the laissez faire attitude of the sixties... teachers sitting waiting for patterns to emerge. I wanted a modern approach to maths but not an ad hoc, diffused or aimless one."

He is fully committed to the scheme which he says, ensures that no gaps are

left in the child's mathematical education and the teacher really knows each child's maths. As an added bonus there is no disruption for those children transferring between KMP schools and "no complaints about those who transfer to non KMP schools".

He uses Fletcher Maths with the infants and lower juniors and combines KMP with the Hesse "Four Rules" books in the third and fourth year. "Probably two-thirds of our maths time is taken up with KMP, the rest is class teaching."

Induction is the biggest problem. New teachers, especially those who doubt their organizational ability, are understandably daunted by the size and complexity of the model and the need to keep such detailed records.

The KEC runs annual introductory courses but generally it is the daily support of experienced teachers which is the most valuable. It is also essential to start with a small group.

At secondary level exam results have been encouraging. Pupils take Mode 1 O level Maths with any board or the recently introduced London Mode 2 KMP papers. At Maplesden Noakes, a Maidstone secondary school which loses its top streams to the local comprehensive at 13, a quarter of the children achieve a maths pass at O level or a Grade 1 CSE.

Ms Eunice Greenslade, Head of Maths is convinced that the general standard has been raised by the use of KMP and showed me first-year classes where pupils were working on level 7 (O level standard) alongside others on level 2 (average 10-year-old work).

I expected more criticisms of the need for more work space, occasional insufficiency of work cards and early problems with bases or language were far outweighed by the enthusiastic comments. The KMP team, Bertram Banks, Tony Larcombe and Toni Tourret, the Secondary Coordinator, are convinced that the scheme can only spread further and faster and the speed with which the publishers have reprinted would seem to uphold their faith.

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extra Examining mathematics at 16-plus

Lesley Booth considers some implications of the CSMS and SESM research

One of the most important recent investigations into secondary school children's understanding of mathematics in this country was completed over two years ago. The Concepts in Secondary Mathematics and Science project, based at Chelsea College and financed by the Social Science Research Council, completed its mathematics work at the end of 1979, and its findings have been disseminated to teachers, curriculum developers and other researchers.

The main import of the findings of the project, which aimed to identify a hierarchy of "stages" of mathematical understanding, was that mathematics as presently developed in secondary school curricula and teaching is a difficult subject for many children. Surprisingly large numbers of secondary school children appear to have progressed no further than the lower one or two stages of the four stages of understanding described by the CSMS (Mathematics) team.

The CSMS work further suggested that the reason children find mathematics difficult may be due to the methods which they use to solve mathematical problems, a view which is currently receiving strong support from the findings of the Strategies and Errors in Secondary Mathematics project (also funded by the SSRC and based at Chelsea College), set up to investigate further the commonly-occurring errors identified by the CSMS (Mathematics) team.

It seems that many children who make these errors have not made the transition to formal mathematics but are in fact working within a system of their own, using non-analytical, commonsense "child-methods" which, while being perfectly adequate for handling "easy" problems, do not generalise to harder questions, where success really requires the use of the "proper" mathematical methods taught in the classroom.

However, the CSMS findings and those of the current SESM project have implications which go beyond the ordering of syllabus topics and the question of teaching approaches, and which must cause us to reassess the assumptions upon which we base our whole idea of how children's attainment in mathematics should be examined. At a time when the Government's decision to introduce a single system of examining at 16-plus (to replace the present GCE O level and CSE examinations) is stimulating a new look at the examination issue, these implications merit serious consideration.

Current public examination procedures in mathematics typically involve students taking one or more written examinations in "formal" mathematics towards the end of their fifth year of secondary schooling, although there are some modifications of this procedure. The 16-plus examination system is likely to follow a similar model. However, the work of the CSMS and SESM projects suggests that a reassessment be made of both what we examine, as well as when we examine it.

According to the CSMS results, something like 60 per cent of students at the end of fourth year have not progressed beyond the second "stage" of mathematical understanding described by the project. If in fact a large number of these children are working with mathematical problems in a non-formal way, then examinations which emphasize the more formal aspects of maths are perhaps less appropriate to an assessment of the mathematical competencies that the children actually have (although they are, of course, an appropriate assessment of the child's level of handling "formal" mathematics).

The question is really one of whether we are prepared to accept these non-formal mathematical competencies as constituting "mathematics". Some children, for example,

when given the problem illustrated below are not able to select the correct expression. In fact, in a recent exercise in which a series of nine questions of this kind was given to 64 children of average mathematical ability aged 12, 14 and 16, only one child was able to answer every item correctly. If asked to solve the problem, however, the children are often able to do so. But they do not do this by operating "formally" with mathematics. They do not consider the structural nature of the problem and select the appropriate mathematical model (in the case of this example the operation $391 \div 23$).

Rather, they may handle the question in a more "non-formal" way by means of a sharing-out process whereby daffodils are allocated one (or more) at a time to each flower bed until all daffodils are used up, a method which is appropriate to a large range of questions, even if it does not generalize to all division problems.

Similarly, some children appear not to handle area problems in a formal way (by means of the appropriate rule or formula), but count the "squares" contained within a figure instead. One could argue that from a practical point of view the "squares counting" approach to finding area may be perfectly adequate for children who do not intend to pursue higher studies in mathematics; likewise the sharing-out method for handling the previous kind of problem. Certainly there may well be employers (and teachers) who would find some of these non-formal skills acceptable, especially if their

development were emphasized by teaching programme brought about as the result of an examination system which recognized (and gave credit to) the distinction.

This recognition would necessitate the inclusion of an examination process which specifically sets out to assess children's ability to handle mathematical problems to which their non-formal "child methods" are applicable. Such an approach would have the advantage of being appropriate to the full ability range of secondary school children, instead of just the top 60 per cent which is the target population for the current and new examination system.

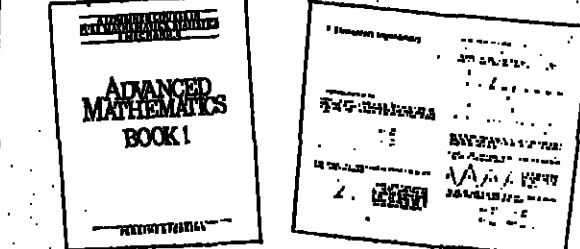
The second main implication of the CSMS research relates to the gains in mathematical performance levels observed during secondary education. Thus a longitudinal study also carried out by CSMS (Mathematics) which tested the same group of children at the end of three and five years of secondary schooling showed very little improvement in their level of understanding as measured by the CSMS tests. This suggests that besides employing an examination model which permits assessment of different kinds of levels of mathematics, it may also be more appropriate to introduce an assessment at earlier points in the secondary school programme.

This would also provide a means of early identification of children whose level of performance is not commensurate with exam-

continued on opposite page

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Strategies and errors in graphs

By Shiam S. Sharma

Analyzing errors is not new to mathematics education research: it has been used for half a century at least in Europe and the United States, nor is it exclusive to the researchers. Experienced teachers of mathematics have accumulated a wealth of knowledge about their pupils' errors and difficulties, but it remains of an anecdotal nature. In recent years, mathematics teaching in secondary schools has shifted its emphasis from computational skills to understanding of the structure of the subject matter and the trend towards individualization of mathematics instruction has meant that the teacher needs skilful diagnoses of difficulties encountered by the pupils, complemented by knowledge of cognitive development.

An ambitious research project in this field was sponsored by the Social Sciences Research Council from 1974 to 1979. The mathematics team of the Concepts in Secondary Mathematics and Science (CSMS) project, based at Chelsea College, tested some 10,000 children throughout England and covered 11 topics included in the secondary syllabuses. Briefly, the results suggest that a hierarchy of levels of understanding could be identified within each topic area and that certain errors were persistently made by a large number of children. More interesting, perhaps, is the nature of these errors, since they reveal the strategies used by the children. These findings have been enthusiastically acknowledged by educationalists nationally and internationally and have stimulated further research.

Strategies and Errors in Secondary Mathematics (SESM), a successor research project, has been funded by the SSRC, again based at Chelsea College. The SESM team aims to investigate the known (CSMS) errors in detail and to analyse the strategies, by in-depth interviewing of the children - consumer research. The insight thus gained will be a guide in writing short teaching programmes, which would aim to reduce the incidence of the errors and encourage children to abandon their naive or intuitive strategies in favour of a more formal mathematical model. The team is currently investigating five different topics - ratio, algebra, fractions, graphs and measurement.

An abridged interim report on one of the topics, Graphs, follows. The major attraction of mathematics, at least to the teacher, is the simplicity of structure of its subject matter, but

the major risk to the student in the building up of the structure of successive abstraction is that a particular level is missed or misunderstood and so further progress is impossible. In the area of graphs, children first learn coordinates, then linear relations and graphs and progress to non-linear graphs. Because of their fundamental nature in the development of graphical schema and the high incidence of errors in the CSMS data, the following concepts were isolated for further investigation: (i) Density of a straight line (ii) Linear function graphs and their algebraic expressions (iii) Gradient of a straight line and its properties.

Out of 107 third and fourth year pupils from two different schools, who were given the CSMS (Graphs) test, 24 relatively successful pupils were chosen for SESM interviews, the criterion being that they had made the errors under study. A sample of the test items is given below. The figures in square brackets give the percentage of correct answers (CSMS data) for third and fourth year pupils respectively. (Hart, K. 1981)

Density of a straight line.

Q 3 (Given a grid with axes) Plot the points (2,3), (3,7), (5,11) [91,94]. These points lie on a line. Draw this line.

3.2 The point (4,6,10,2) also lies on the line. Mark its position. [28,35]

3.4 How many points do you think lie on the line altogether? [11,29]

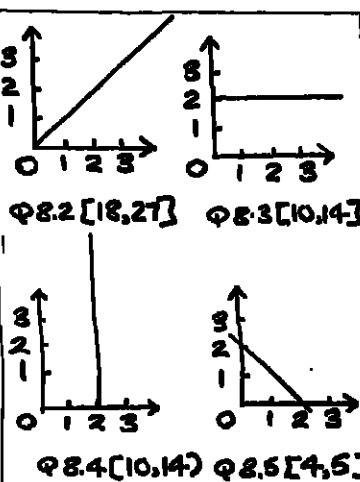
3.5 Are there any points on the line between the points (2,5) & (3,7)?

3.6 If so, how many? [7,19]

The pedagogical importance of the concept of a straight line, as an infinite set of points is evident from Q 3.2 responses. During the SESM interviews 12 out of 21 children indicated that a point can have integral co-ordinates only. For instance, when asked to read Q 3.2 aloud, one child read, "The point four, six and ten, two also lies . . ." and plotted two points (4,6) and (10,2). The children had not abstracted the notion of a point, conceiving it as a cross or an intersection and thus could envisage only a finite number of points on a finite line segment - Q 3.5.

Linear graphs and their algebraic expressions.

Q 4 Which of the graphs below represents the line $y=2x$? What are the equations of the other lines?



Since a multiplicity of mathematical concepts can be related to linear equations and their graphs, textbooks and teachers give a generous share of space and time to the mastery of this concept. The SESM interviews revealed that the children did not understand that a straight line graph represents a constant relationship between two variables. Seven out of 13 read the scale divisions as $2x, 3x, \dots$ instead of $x=2, x=3, \dots$. They strongly held that " $=$ " implies parallelism. Thus Q 8.4 was answered as $2x=y$. Two more questions are not given here for reasons of space. In general, they confirmed the findings given above.

Gradient of a straight line.

Q 10 The diagram shows two lines, their gradients being 3 and 2/3. Find the length of the dotted line [35,36]. the broken line [32,37].

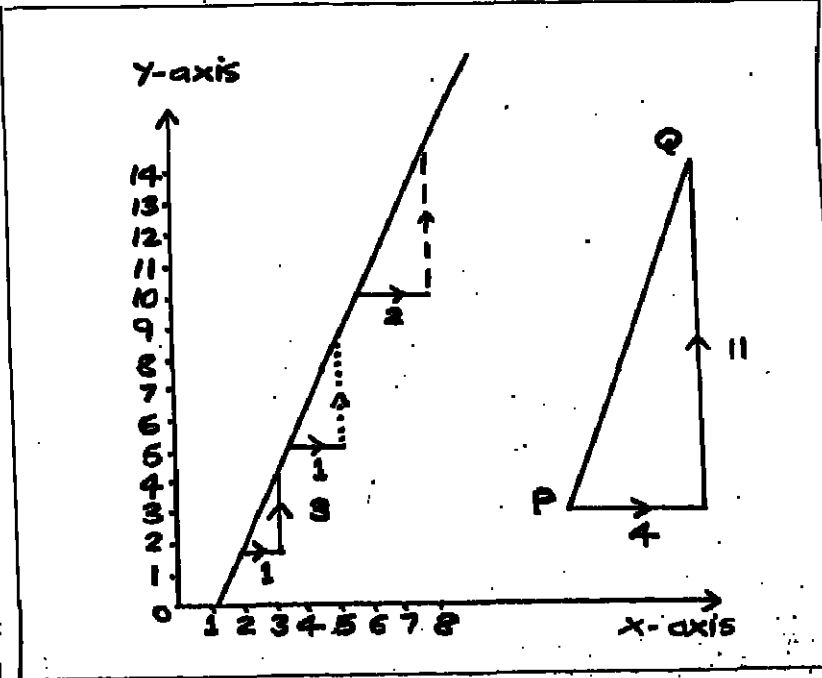
10.3 Is line PQ parallel to the first line? [3,9]

Most children (19 out of 24) did

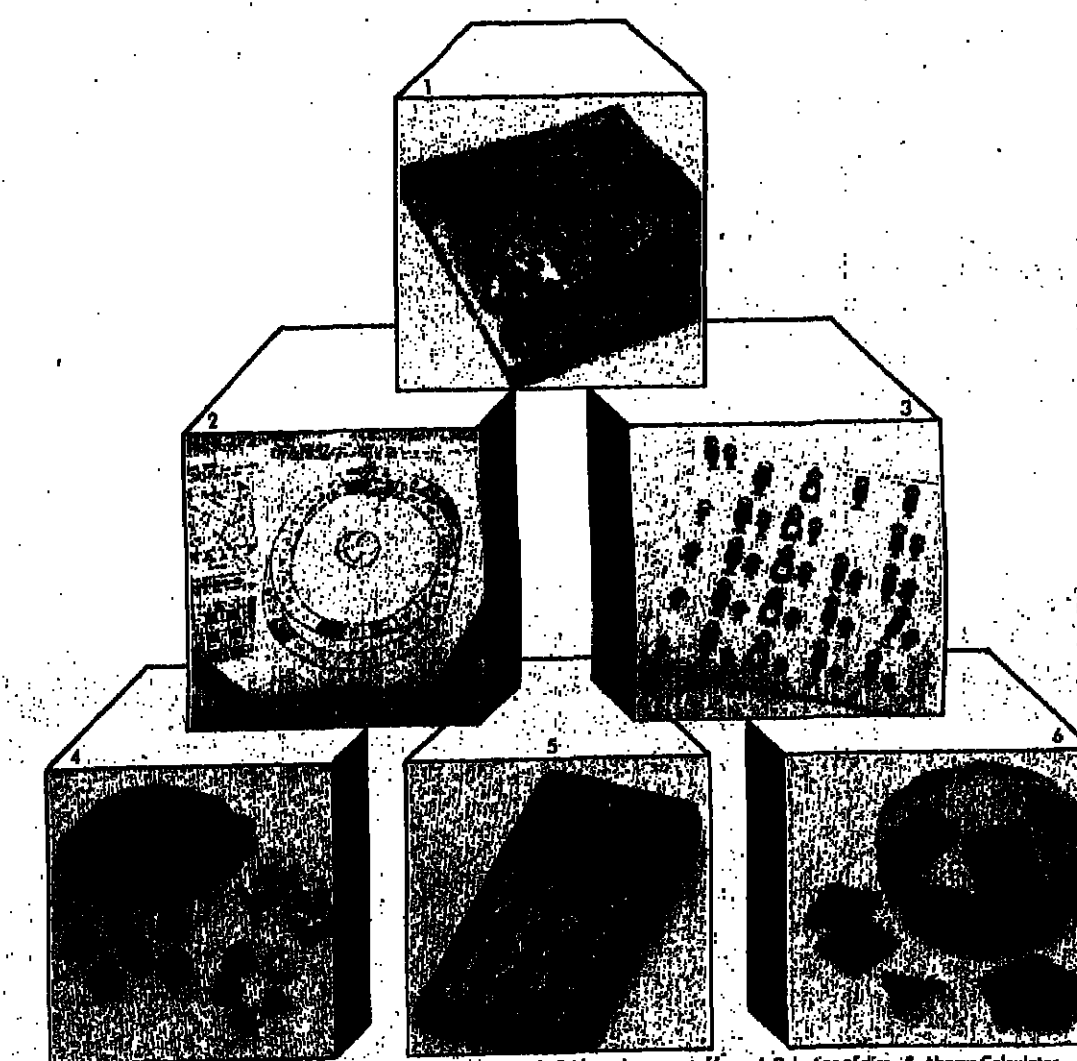
not use the given gradient in finding the lengths. In the absence of a grid, they insisted on measuring and did not know that the gradient of a straight line is constant. They knew that parallel lines do not meet and were content to judge parallelism by sight - more cautious ones took measurements, but ignored the properties of gradient. The impression conveyed was, "I know a good test for parallelism and I need not learn another." Without a sound understanding of the concept of gradient, the student's progress in the subject of calculus is very doubtful and there are implications for the teaching of related subjects e.g. sciences.

One purpose of this article was to inform those involved in the teaching of mathematics or in the framing of mathematics curricula, of the pervasive nature of the errors discussed above, but the second, a more selfish, purpose was to invite comments from experienced colleagues, who may be able to explain the reasons or causes. All comments will be gratefully acknowledged.

Hart, K. (ed.) 1981. *Children's Understanding of Mathematics* (11-16, Murrays, London. Kerslake, D. 1977. *The Understanding of Graphs, Mathematics in School*. Vol. 6.2. Shiam S. Sharma is an SESM research student (PhD).



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extra A means to an end

Kate Livingston describes a project to produce and evaluate examples of mathematical skills, as they are used in employment

As one of the researchers for the Bath Project commissioned to report to the Cockcroft Committee of Inquiry, I would like to mention some points arising from our interviews across the range of employment and to draw attention to the continuing work that is already underway at the University of Bath.

The most commonly expressed need by employers was not for 'the basics' (and that means different things to different people) but for an ability to make sensible decisions about 'basic' manipulations. They require a 'practical facility with measurement' and 'accuracy' and an 'ability to solve problems'. Before teachers reply in unison that if they teach any more practical measurement lessons they will run out of things to measure, that they already teach about accuracy in decimal notation and that obviously an answer must be correct, let us take a step back. Let us look at these phrases 'practical measurement' and 'accuracy' and try to see where the problem lies. On the one hand, employers say that young school leavers are unskilled in these areas and on the other, teachers say that these areas are already stressed in schools. The problem is that, although they are using the same words, employers and teachers are not speaking the same language.

In school, practical measurement involves finding the length, weight, capacity of various objects, recording these measurements on paper and perhaps manipulating the recorded figures. For an employer, practical measurement means that a clerk realizes that an order for a metal sheet 100m wide must be a mistake, or that a laboratory assistant realizes that a residual weight of 1500g must be checked for error. Similarly, accuracy in school initially means 'there is only one correct answer to any question'. Later, consideration of the precision of any answer involving figures after the decimal point is assimilated into accuracy considerations. Apart from balancing the accounts, it is not necessarily true

that there will be one correct answer for many calculations performed at work. What is more likely is that the answer can be forecast to lie within recognizable limits. It is the recognizing of these limits that facilitates accuracy in an industrial sense.

We can draw these threads together and incorporate the final requirement of problem solving: however much practical methods are used, whatever our aims as teachers, mathematics is that children learn mathematics. But in the real world mathematics is not an end but a means to an end. What employers ask is that children learn to use mathematics. This is not to suggest that our prime reason for teaching mathematics should be a vocational one. It does however put the demands of employers in context. It is very noticeable that familiarity with the context of the problem very soon helps employees make sense of any numbers they are dealing with. They can automatically apply an 'is it reasonable?' check on their calculations, whether consciously or subconsciously. The parallel check at the end of a mathematical calculation in school would be 'have I done it correctly?'

The project underway in the School of Education at the University of Bath is producing materials which illustrate mathematical skills as they are used in employment situations. We are suggesting that these materials could be used to enrich existing courses of study rather than to provide yet another 'mathematics in industry' course for CSE pupils to follow. The material will be arranged in units categorized by the mathematical skill (or skill area) which is being utilized. Each unit will contain individual employment examples showing different uses of the mathematical skill. It is envisaged that a teacher could use an employment example to introduce or reinforce a mathematical skill. The examples will be cross referenced and indexed but it is not necessary to use more than one at once. However, comparison between examples or units

could lead to some interesting mathematics.

The specific aims of producing material in this form are to:

1. Show mathematical methods in use today.
2. Provide the industrial framework context within which these methods are relevant.
3. Stimulate thought about the real situation and hence the application of mathematical methods.
4. Provide a reason for pupils being coming competent with mathematical techniques.

The production of industrially relevant materials for the mathematics lesson has been the aim of many individual teachers and liaison groups and much has already been done at local level. Until now, such a detailed amount of industrial information has not been available in one place or one time. We are grateful to the Department of Industry and to our sponsors, Banking Information Service; British Gas; The British Petroleum Company Ltd; British Rail; Courtaulds Ltd; The Rank Organisation and Unigate, for this opportunity to provide such service for schools. The material will be designed for use by the mathematics teacher (specialist or non-specialist) teaching CSE groups and will be aimed at the pupil of the Grade 3 CSE level of ability. Before any units are published, they will be thoroughly tested in school for pupil and teacher response. If any schools are interested in participating in such a trial during 1982/83, would they please contact me, Mrs M. Livingston, Research Officer, Mathematics at Work Project, School of Education, University of Bath, Bath BA2 7AY. It would also be interesting to hear if anyone involved in similar work

The report *Mathematics in Employment* (16-18) is now available, priced including postage. All enquiries should be directed to Mr W. J. Vennart, Administrative Assistant, School of Mathematics, University of Bath, Claverton Down, Bath BA2 7AY.

Additional activity

The Real World and Mathematics.
By Hugh Burkhardt.
Blackie £5.95, 0 216 91084 6.

That the teaching of mathematics should be related to practical everyday situations is now part of the accepted gospel. There are those who believe this idea is one arising in the past few years. They should be reminded that Professor John Perry's seminal lectures advocating practical mathematics were (vide the title-page of the book containing them) 'delivered to working men in February and March 1899'.

However, there has latterly been a revival of interest in the applications of mathematics, accompanied by a recognition (however unwelcome to the egalitarians) that an academic, purist, study of the subject is suitable only for some children. The majority need something far less abstract.

Professor Burkhardt offers some timely help to teachers on ways in which to incorporate real life problems into their curriculum. 'Learning to use mathematics is the key objective' and ways in which to associate techniques to achieve this (alongside and not displacing all the traditional approach) are set out with the utmost clarity.

There is no suggestion here of a root-and-branch transformation exercise. The work is 'not envisaged as a whole new approach to the teaching of mathematics, but rather as an

important additional activity... justified both by its interest value and by the reciprocal benefits it will bring to the rest of the mathematics curriculum through improved motivation, extra practice and better conceptual understanding through concrete illustration'.

This is quite admirable. Wherever possible, problems and applications should be of real concern and high interest to pupils. The ideas of mathematical modelling should be understood by the teacher and used to help the class.

There has, of course, been much thought given to these postulates, and those who have applied the techniques have no doubt about their value. Among the many merits of Professor Burkhardt's survey of what is going on, and how it can be extended, is his bringing together of some of the most successful work in the field. But his advocacy of the application of mathematics contains far more than this.

He notes modern developments (the inclusion of statistics in school work, the advent of calculators and mini-computers, optimization, and so on), and he encourages and stimulates teachers to think for themselves about how best to make their work more purposeful and rewarding. Altogether, a first class book which deserves to make a wide impact, although the illadvised cartoons strike a jarring note.

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PRINCES ALBION HIGH SCHOOL
Merton Road, Princes
Albion, N.S.W. 2537
Roll: 418
Required for Septem-
ber 1985: Enthusiastic and o-
riented teacher for the po-
sition of Deputy Head of
School at a Secondary M-
iddle School with an extensive
curriculum in the field of
management in the
range of the school's ac-
tivities. Must have had re-
levant experience in
management of a s-
chool. Ability to teach, pri-
marily Physics, an advan-
ced course. Remuneration re-
ferred to is a % allowan-

incidental expenses of
payable in approved
Housing allowances p
removal also payab
approved cases.
Application forms
further particulars
Education Officer,
House, 9 Castle Street
Wycombe, Bucks, n
or stamped address
volumes to be return
April 12. (41864)

CAMBRIDGESHIRE
HUNTINGDON AREA
ERNOLF COMMUNITY
SCHOOL

Enuff is an 8/9 form
Community Comprehensive
School. It has fine new
ings and is very
equipped.
Required for Sep
next a Deputy to Jo
Principal, the Senior
Community Tutor and two

who should answer
the first instance in
responsibility for the
half (Years 1 to 3)
school population. An
in the general welfare
is necessary.
The following forms
further particulars for
Acting Principal of the
place. The forms
should be returned
Acting Principal by April
(41612)

CAMBRIDGESHIRE
CAMBRIDGE AREA
CHESTERTON SCHOOL
Required for September
this 11 11 11
11 11 11 11 11 11
MASTER/MISTRESS

ADSHIP
Advertisement

2 Ages 11-16
 ted from suitably qualified
 for the post of Head of the s
 Number on roll in September
 need not re-apply as
 considered.
 available from the Co
 rminwade Street, Ipswich, IP4
 application form should

olk County Council

ment of chers

DALE SCHOOL
Edward
92 4GL
Group: 9
ber 1982
s. and further details may
warding a stamped, address
to the Director of Education
April, 1982.

**Nottinghamshire
County Council**
County Hall West Bridgford
Nottingham NG7 5PP

...for 100 on receipt of a
whom they should be returned by 8th A
This Authority is an equal opportunity emp

AC, to
1, 1982.
87.

 COM

entry

Nottingham NG9 7DP

County Hall West Bridgeford
Nottingham NG7 5PE



CONCRETE

**NORTH YORKSHIRE
COUNTY COUNCIL
SCARBOROUGH SIXTH
FORM COLLEGE
Sandybald Lane, Scarborough
YO11 1LF**

Number on roll 612
Required for September
a teacher of TECHN
SUBJECTS (Scale 1) Th
cessful applicant will
with the head of depar
teaching 'A' level
Technology, 'O' level
Design and Technical

between Selby and Goo
quired for September
teacher of CRAFT DES
TECHNOLOGY, Seal
There is a recently ec
Workshop and Technical
ing Room and exam
courses are well estab
Application forms
further details (a.a.a.)

Closing date two
after the appearance
this advertisement
(41942)

**OXFORDSHIRE
COUNTY COUNCIL
ABBEY SCHOOL**

1982. Then Hendtich
Comprehensive School
gate. With upon
Rotherham SWS 7NW.
Applications by let
ing full curriculum
the Director of E
Education Offices, R
Road, Rotherham, S
W.B. Mussett. Dir

Application form
available from the
Teacher to whom
should be returned
as possible. (41979)

WALSALL
METROPOLITAN BO

Application should be made by letter to the Head of the school giving the name and addresses of two referees and enclosing a s.s. This Authority is

on receipt of a.s.s. to

SPECIAL EDUCATION

continued

TAMESIDE METROPOLITAN

ASTON-UNDER-LYNE DATE OF SPECIAL

Required from September 1982 at this day

for children aged 5-11

Assistant Teacher

Scale 1 plus Special

Schools Allowance

The person appointed

will be expected to take

charge of a group of chil-

dren for general subjects.

An ability to offer domes-

tic science with related

subjects will be an advan-

tage.

Application forms and

further particulars avail-

able from the Director of

Education, Staffs. Sec-

tion, Education Office, Wel-

lington Road, Ashton-

under-Lyne, Great Man-

chester, OL16 6JL. Tel:

0204 255555. (44441)

160092

WEST SUSSEX

STODDOWN S.S.N. (8)

Durrington Lane, West-

minster, Sussex. Re-

quired for September

1982 in the senior depart-

ment. The following subjects

are: English, History, Sci-

ence, Physical Education, Home-

craft, Music, and Art.

Application forms and

further details available from

the Headmaster on receipt

of S.E.F. (45055)

(41525)

WILTSHIRE

WILTON COUNTY

PRINCE OF WALES

School, Wilton, Wilt-

shire. Required for Sep-

tember 1982. A well quali-

fied teacher to take

charge of a group of chil-

dren for general subjects.

Application forms and

further details available from

the Headmaster on receipt

of S.E.F. (45055)

(41525)

Independent Schools

Headships

SUSSEX

BUCKWOOD GRANGE

The principal wishes to

appoint a HEAD to take

charge of a group of chil-

dren for general subjects.

Application forms and

further details available from

the Headmaster on receipt

of S.E.F. (45055)

(41525)

Cambridgeshire

KIRBY LODGE

Little Shelford, Cambrid-

geshire. Required for Sep-

tember 1982. A well quali-

fied teacher to take

charge of a group of chil-

dren for general subjects.

Application forms and

further details available from

the Headmaster on receipt

of S.E.F. (45055)

(41525)

Oxon

COCKFIELD SCHOOL

Wotton, Oxon. Required

for September 1982. A well

qualified teacher to take

charge of a group of chil-

dren for general subjects.

Application forms and

further details available from

the Headmaster on receipt

of S.E.F. (45055)

(41525)

Northamptonshire

WELLINGBOROUGH SCHOOL

Wellingborough, North-

amptonshire. Required for

September 1982. A well

qualified teacher to take

charge of a group of chil-

dren for general subjects.

Application forms and

further details available from

the Headmaster on receipt

of S.E.F. (45055)

(41525)

Other Assistants

HARROW

HARROW SCHOOL

Harrow on the Hill, Har-

row. Required for Sep-

tember 1982. A well quali-

fied teacher to take

charge of a group of chil-

dren for general subjects.

Application forms and

further details available from

the Headmaster on receipt

of S.E.F. (45055)

(41525)

Other Assistants

BRADFORD

BRADFORD GIRLS'

GRAMMAR SCHOOL

Bradford, West York-

shire. Required for Sep-

tember 1982. A well quali-

fied teacher to take

charge of a group of chil-

dren for general subjects.

Application forms and

further details available from

the Headmaster on receipt

of S.E.F. (45055)

(41525)

Croydon

THE OLD PALACE SCHOOL

Croydon, Surrey. Re-

quired for September

1982. A well qualified

teacher to take charge

of a group of children

for general subjects.

Application forms and

further details available from

the Headmaster on receipt

of S.E.F. (45055)

(41525)

Shropshire

MORFON HALL

Wotton, Shropshire. Re-

quired for September

1982. A well qualified

teacher to take charge

of a group of children

for general subjects.

Application forms and

further details available from

the Headmaster on receipt

of S.E.F. (45055)

(41525)

Other Assistants

SURREY

CONVENT OF THE SACRED

Heart, Guildford, Surrey. Re-

quired for September

1982. A well qualified

teacher to take charge

of a group of children

for general subjects.

Application forms and

further details available from

the Headmaster on receipt

of S.E.F. (45055)

(41525)

Other Assistants

SURREY

KINGSTON GRAMMAR

Kingston, Surrey. Re-

quired for September

1982. A well qualified

teacher to take charge

of a group of children

for general subjects.

Application forms and

further details available from

the Headmaster on receipt

of S.E.F. (45055)

(41525)

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WALSALL Metropolitan Borough Council

Walsall Council is currently pursuing a radical programme to maximise community involvement in every sphere of the Council's activity and provision of service.

It is the declared policy of the Council to:

"support the provision of community facilities in schools. We will try to ensure that ordinary working people in a school's locality are attracted to use such facilities and given priority where demand exceeds supply."

The Director of School and Community Activities will be a key person to secure the implementation of this policy. If you

- are wholeheartedly committed to increasing community involvement in schools,
- can support and strive to achieve the Council's policy,
- can develop and implement imaginative programmes and strategies,
- are willing to bring drive, determination and flair to the task,

then you should apply for two posts of Director of School and Community Activities which are available in the Borough. Maximum salary payable £21,154.

Application forms and full details must be obtained from the Director of Education, Education Department, Civic Centre, Darwell Street, Walsall WS1 1DQ to whom they should be returned by 18th April, 1982.

This Authority is an equal opportunity employer.

OFFICER IN CHARGE

£9,528 - £10,275 Grade 8

Highgate Close, Development Unit
Highgate, Birmingham.

We are seeking to appoint a dynamic and qualified officer in charge with the personality, skills and ability to carry out the concept of 'Treatment' for teenagers in care.

The Unit will provide care in a controlled structure for a number of teenagers, many of whom will be involved in placement back at home after care programmes and/or other forms of neighbourhood interventions.

The officer in charge will be expected to initiate and innovate residential and community programmes to meet the needs of adolescent in care. The ability to organise and develop staff training programmes, staff support systems, meeting the total needs of all members who contribute to the life of the unit will be a major expectation.

A non-resident officer when required to sleep in would receive £5.98 on each occasion.

Informal enquiries to Mr. M. Taylor, Team Leader. Tel: 021 225 2944.

Applicants, male/female, may obtain application forms (returnable by 9.4.82) and further details from: Personnel Officer, City of Birmingham Social Services Department, Snow Hill House, 10-12 Livery Street, Birmingham B3 2PE.

Chitvassing will disqualify.
Please quote reference 051/NMC/82/72.

BIRMINGHAM CITY COUNCIL

GENERAL ADVISER

with responsibility for Further, Higher, Adult & Community Education.

Head Teacher, Group 9 £13,508 - £14,631

Applications are invited for the post of General Adviser from well qualified people with recent experience in the field of education and having knowledge and understanding of major developments taking place more widely within the Education and Arts Service. Preference will be given to applicants who have had experience of Advisory work or work at a senior level in colleges. Experience in Curriculum and staff development is essential.

In September 1982 Further, Adult and Community Education (including YOP provision) will be organised within the newly established Bolton Metropolitan College, Higher Education (including teacher training) will be the responsibility of the Bolton Institute of Higher Education.

The appointment will take effect from 1st May, 1982 or as soon as possible thereafter.

APPLICATION FORMS and further details available from the Personnel Officer, Town Hall, Bolton BL1 1RU (Tel. 02041 42311 Extns. 527 and 510). The post is subject to medical assessment and is a supernumerary. Trade Union Membership is a condition of service.

ADMINISTRATION LONDON EDUCATION AUTHORITY

continued

HAMPSHIRE EDUCATION COMMITTEE

CAREERS SERVICE, MIND

CAREERS OFFICE.

Applications are invited for the following two posts of Career Adviser:

(1) SENIOR CAREER OFFICER required for the S.O.1. Graded post will be £8,735 per annum.

The successful candidate will combine the role of Career Officer with the role of a qualified and experienced Career Officer.

(2) CAREER OFFICER FOR THE UNEMPLOYED required for the S.O.1. Graded post will be £8,735 per annum.

The successful candidate will combine the role of Career Officer with the role of a qualified and experienced Career Officer.

For further details and application forms please write to: Personnel Services Unit, The Careers Office, Winchester 4411 Extn. 319, quoting reference 051/NMC/82/72. Returnable by 18th April 1982. (42051) 480000

L.L.E.A.

LAMBETH COMMUNITY RELATIONS COUNCIL

OFFICER

Education Welfare Officer Grade 8

Salary £9,528 - £10,275

Applications are invited for the post of Education Welfare Officer Grade 8. The successful candidate will be responsible for the day-to-day running of the Council's Education Welfare Service. The post is subject to medical assessment and is a supernumerary. Trade Union Membership is a condition of service.

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Salary £9,528 - £10,275

Applications are invited for the post of Education Welfare Officer Grade 8. The successful candidate will be responsible for the day-to-day running of the Council's Education Welfare Service. The post is subject to medical assessment and is a supernumerary. Trade Union Membership is a condition of service.

For further details and application forms please write to: Personnel Services Unit, The Careers Office, Winchester 4411 Extn. 319, quoting reference 051/NMC/82/72. Returnable by 18th April 1982. (42051) 480000

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